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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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FOR A NATIONAL NAVAL RESERVE.

The Bureau of Navigation, Navy Department, Washington, D. C., is looking to the establishment of a permanent national naval militia, which shall take into its scope all of the States without regard to their possession of water front. The creation of a national naval reserve upon lines of the British system will be recommended by Secretary Long on the meeting of Congress, when he will present a plan, now under consideration by the Navy Department. The work of the state naval militia in the war, while useful and efficient, disclosed many deficiencies in the present system of instruction, organization and control, which must be removed in order to render available a well equipped, drilled and perfected reserve, on which the national government can rely with confidence in emergencies. The formation of a national organization by which the government comes into control of a naval reserve, with authority to appoint the officers, prescribe the course of instruction and drill, and in all respects to have charge of the various separate bodies, would be of the greatest possible benefit to the naval service in time of war and lead to the developement of a system such as that which has been of inestimable value to the British navy. Lieut. Southerland, U. S. N., who is now in charge of naval militia work under the department, is preparing data for framing a plan for presentation to Congress which will receive the approval of the secretary and his strong indorsement for favorable action. The plan is expected to be heartily indorsed as well by the State organizations, which rendered such valuable and efficient services during the work of the navy around Cuba last summer.

AMERICAN SHIPBUILDING.

A country which has turned out the modern navy of the United States, says the London Times, need not fear competition in material resources, mechanical appliances, or constructive skill with any shipbuilders in the world. If we were disposed to consider the question solely from the point of view of the ulterior interests of this country, we should have to hope that the repeal of the navigation laws of the United States might be delayed as long as possible. The immediate effect of the repeal would probably be greatly to our benefit. It might be expected to lead to the transfer to American flag of a large number of 'tramps' and cargo boats now employed by Americans under a foreign flag, and English shipbuilders would be flooded with orders from firms who are now deterred from entering the trade by the hopelessness of competition on even terms with foreigners. Any ships now afloat under the English flag which were sold to American owners would probably be replaced by their vendors with new ships built at home. Nevertheless, sooner or later the American shipbuilding trade is certain to find itself able to supply all the demands of the country for shipping, and to that extent the British trade must in the long run be the loser. In other words, the navigation laws of the United States really act rather as a protection to British industry than as a protection to native industry. Their repeal might benefit us for a time by causing a temporary activity in our yards, but there can be little doubt that the growth of a large and modern mercantile marine on the other side of the Atlantic would be a serious matter for us in the end.

MERCHANT MARINE STATISTICS FOR THE YEAR.

On June 30, 1898, the merchant marine of the United States, including all kinds of documented shipping, comprised 22,705 vessels of 4,749,738 gross tons. On June 30, 1897, it comprised 22,633 vessels of 4,769,020 gross tons. The following table shows the geographical distribution, motive power and material of construction and trade of vessels of the United States for the fiscal year 1898, compared with the fiscal year 1897, and also the construction for the two years:

CLASSIFICATION.	1897.		1898	
	No.	Gross tons.	No.	Gross tons.
GEOGRAPHICAL DISTRIBUTI'N				
Atlantic and Gulf Coast	16,592	2,647,796	16,442	2,553,739
Pacific Coast	1,581	439,012	1,754	496,767
Northern Lakes	3,230	1,410,103	3,256	1,437,500
Western Rivers	1,230	272,109	1,253	261,732
Total	22,633	4,769,020	22,705	4,749,738
POWER AND MATERIAL.				
Sail: a—Wood	15,940	2,276,938	15,896	2,237,153
Iron and Steel	94	133,524	97	140,662
Total	16,034	2,410,462	15,993	2,377,815
Steam—Wood	5,670	1,284,859	5,775	1,288,785
Iron and Steel	929	1,073,699	937	1,083,138
Total	6,599	2,358,558	6,712	2,371,923
Canal Boats	650	73,786	660	74,640
Barges	1,480	432,523	1,667	467,348
Total	2,130	506,309	2,327	541,988
TRADE—REGISTERED.				
Steam—Iron and Steel	103	222,136	19	245,059
Steam—Wood	144	36,337	193	49,005
Sail: b—Wood, Iron, Steel	983	547,111	824	443,645
Total	1,230	805,584	1,136	737,709
ENROLLED AND LICENSED.				
Steam—Iron and Steel	826	851,562	915	978,741
Steam—Wood	526	1,248,521	5,485	1,099,118
Sail: a—Wood, Iron, Steel	15,051	1,863,353	15,169	1,934,170
Total	21,403	3,963,436	21,569	4,012,029
CONSTRUCTION DURING YEAR.				
Geographical Distribution.				
Atlantic and Gulf Coast	609	96,009	514	63,090
Pacific Coast	64	7,495	228	49,789
Northern Lakes	120	116,937	87	54,084
Western Rivers	98	11,792	123	13,495
Total	891	232,233	952	180,458
POWER AND MATERIAL.				
Sail—Wood	327	29,678	357	27,692
Steel	11	34,631	2	6,724
Steam—Wood	244	27 917	343	57,337
Iron and Steel	44	78,236	51	48,501
Canal Boats	70	10,216	20	2,386
Barges—Wood	182	40,027	169	30,777
Steel	13	11,528	10	7,041
Total	891	232,233	952	180,458

a—Including canal boats and barges.
b—Including barges.

SOME VIEWS ON THE INCREASED SPEED AND SIZE OF PASSENGER AND CARGO STEAMERS.

Mr. E. L. Corthill has read a paper before the American Association for the Advancement of Science, dealing with the future dimensions of steamships and the harbor requirements fifty years hence. He has made investigations at forty ports in Europe and of sixty-five naval constructors, and from the data collected he has come to these conclusions which cannot but be interesting even if they are conjectural to a greater or less extent. He shows that vessels have roughly doubled in size in fifty years, although later the requirements in respect of draft of water, as put forward by Dr. Elgar and other, have not been met owing to harbor limitations. Twenty-five years hence twenty of the largest vessels will average the following dimensions—765 feet long, 80 feet beam, 41 feet depth, 31 feet draft, 21 knots speed, 24,000 tons; while the fastest will steam 26 knots. This does not appear to be much beside the mark in view of the new White Star liner Oceanic and the new German liners, always presuming, of course, that Parson's "turbine," or some other invention on new lines, does not entirely upset the natural order of progression on the principles of the past. Again, in fifty years the twenty largest ships will average as follows: 1,000 feet long, 100 feet beam, 43 feet depth, 33 feet draft, 24 knots speed, 30,000 tons; with 30 knots as the fastest speed. Mr. Corthill believes that in twenty-five years the sailing tonnage will have decreased from 8,894,732 tons now to 4,700,000, and that in fifty years it will only be 3,241,000 tons, while the steam tonnage, which is now 17,889,306 tons, will be 32,450,000 in 1923 and 45,000,000 tons in 1948. Similarly the carrying capacity will go up from 62,500,000 tons to 102,000,000, and in fifty years to 138,000,000 tons, while at the same time the over-sea commerce will increase from 201,000,000 tons to 318,000 000 tons in 1923, and 435,000,000 tons in 1948. This latter increase seems small. Draft of water is the great desideratum, and Mr. Corthill quotes Dr. Elgar to show that instead of being of the same draft as the Umbria and Etruria, the Campania and the Lucania in the natural order of things should have been 32½ feet with the draft continuing the same. It is only a question of time, and not of a very long time with our present materials of construction and type of propulsive machinery to find an absolute limit of speed imposed by the restriction of draft of water.

LATE OBJECTION TO THE CHICAGO DRAINAGE CANAL.

Now that the Chicago drainage canal is rapidly nearing the stage where it will be ready for service there comes a movement headed at St. Louis protesting against its opening. The board of health of St. Louis has adopted resolutions asking its congressman to introduce a bill to stop Chicago from emptying its sewage into the Illinois and finally into the Mississippi. This action is of course based on the contention that the operation of the canal will pollute the water supply of St. Louis. It is rather late in the day to bring up this objection. The matter was thoroughly considered years ago, and it was concluded that the well known self-purifying powers of moving bodies of water would care for all the pollution. Hence the battle being fought and won, the "I Will" of Chicago remains like the law of the Medes and Persians.

THE War Department has ordered the installation of 63 Kenney Flushometers in the transport Mohawk, now being overhauled at the Bath, Me., Iron Works. The Navy Department has also given the Kenney Co. a second order for flushometers to be used in their buildings at Washington, D. C.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

The tug Monitor is in the I. T. L. floating dry dock for repairs to her shoe and stern bearing and general repairs.

The new Chicago steel fire boat Illinois is to be launched at the Chicago Ship Building Co.'s shipyard, on Saturday, Oct. 29.

The schooner Herschel, Capt. Thos. Clarke, of this port, which went on Sulphur Island reef has been released and taken to Alpena.

On Monday and Tuesday grain freights declined to 2¾ cents on corn and 3 cents on wheat to Buffalo, and to 2¼ cents on corn to Georgian Bay and Port Huron.

The body of Capt. Andrew Anderson, formerly of the schooner J. V. Taylor, was found on the shore between Escanaba and Ford river and brought here for interment. The funeral took place at Mount Olivet cemetery, Friday afternoon, and was largely attended by marine men.

H. N. Jex left here last week with the schooner E. T. Judd to remove the wreck of the steamer City of Duluth off St. Joseph, Mich., under a contract with the U. S. government. He took along several hundred pounds of dynamite to enable him to accomplish the work.

J. J. Rardon & Co. chartered the steamers Brittanic and Mecosta for corn to Buffalo at 3 cents, steamers Bulgaria and Amazon for corn to Midland at 2¼ cents, steamer Phenix for corn to Owen Sound at 2¼ cents, steamer John F. Eddy for wheat to Buffalo at 3 cents, barge Ashland for corn to Buffalo at 2¾ cents.

The Chicago Board of Trade have prepared a brief concerning tolls on the Welland canal, which will be presented to the United States and British Joint High Commission, at their meeting to be held in Washington on November next. If oral testimony is permitted a committee from the Chicago Board of Trade will attend.

On Tuesday the wind kept up a volocity of 48 miles an hour from the northeast at this point and at Grand Haven. At all other upper lake ports it was from the north. Great seas piled over the breakwaters, and vessels which had ventured out earlier in the day ran back for shelter. A large number of casualties are being reported to the underwriters here.

Information was received on Wednesday that the schooner D. L. Filer was drifting water-logged in the lake. The tug Dixon and the life-savers went out from Racine and rescued Capt. Horace Acres and six men. They had been in the rigging for 24 hours and had suffered from exposure. The vessel was abandoned. She belonged to the tow of the steamer Pahlow.

At the shipyard here the schooners Fanny Neil and E. M. Stanton were in dock for bottom calking, the steamer R. P. Ranney to have a leak stopped, the steamer Iron Duke for a new stem, the tug F. O. Ernshaw for part of new stem, six new planks on sides and bottom and calking, the steamer City of Traverse for fastening wheel, new brasses in stern bearing and some calking.

The car ferry Shenango No. 2 crashed into the dock and nearly demolished the Kraus Merkel elevator, Milwaukee, this week. The steamer cut through 16 feet of dock, and the elevator threatens to fall into the river, although everything has been done to hold it in its place. The bows of the ferry are stove in. Capt. Thompson says that the collision was cansed by a mistake in signals by the engineer.

Among a number of marine men who attended the Peace Jubilee last week, Mr. Carl C. Joys, of the firm of Gibbs & Joys, vessel agents, Milwaukee, was in this city for a couple of days. Mr. Joys reports marine business at Milwankee as being the best for several years. His firm, who succeeded the old and well known firm of R. P. Fitzgerald & Co., do a large business as insurance agents, surveyors and adjusters.

At the yards of the Chicago Ship Building Co. the steamers Gladstone, Massachusetts and Phenix were in dock for bottom calking, steamer C. W. Elphicke for stopping leaks and general repairs, steamer Grecian is receiving repairs to her rudder, steamer T. W. Palmer and barge Olive Jeanette received some repairs, schooner Typo new rudder stock and fore gaff, steamer Majestic received repairs to deck houses and hatches.

The Dunham Towing and Wrecking Co.'s tug T. T. Morford arrived Friday morning from Sheboygan, Wis., with the following schooners in tow: Ford River, H. A. Richmond, Clara, Thos. Howland, C. Michelson, Ida, S. A. Wood and B. Calkins, and on Saturday afternoon the company's tug Perfection arrived with the following from Sturgeon Bay canal: City of Sheboygan, Richard Mott, Apprentice Boy, C. J. Magill, Ellen Williams, Hattie Hutt, L. B. Coates and Rouse Simmons.

Andrew J. Ritter died Oct. 15, at 3018 Wabash Ave., after a protracted illness. He was a past president of the N. M. E. B. A., and one of the oldest members of the No. 4, Chicago, M. E. B. A., and was held in highest esteem by all of its members. He was also a charter member of the DeWitt Cregier Masonic Lodge, and of the Stephen A. Douglas, No. 642, Royal Arcanum. The funeral of the deceased took place Tuesday, Oct. 18th, at Rose Hill cemetery, under the auspices of the Masonic order, with the assistance of the other lodges.

DETROIT.

Special Correspondence to The Marine Record.

Repairs are being made at Port Huron on the steamers Cormorant and Canisteo.

The steamer Westford and the consort Monitor have been purchased this week by C. D. Thompson from the Miner Lumber Co., of Alpena.

The steamer Coffinberry had trouble with her crew here on Sunday night and other hands had to be shipped. John Barleycorn was the disturber and he is a noted old do-wrong.

The crew of the schooner Nassau, sunk in a collision with the steamer Colby, claim that the steamer refused to answer their hail as to her identity, or to lower a boat to their rescue.

Capt. Singer is making good progress in removing the wreck of the steamer Toledo from the entrance to the Portage canal. Four hundred pounds of dynamite have already been used, and part of the machinery is now accessible.

The steamer Maruba, of the Minnesota Steamship Company's line passed down the river last Sunday, having in tow the big barges Martha and Constitution, loaded with 15,000 tons of iron ore. This is said to be the largest tow ever taken through the Detroit river. The steamer easily made eight miles an hour coming down Lake Huron.

Capt. Duncan says there is only sixteen feet of water on the ranges at Copper Harbor, where the government charts show eighteen. In this he is supported by E. T. Hitchcock, representative of the underwriters, who adds that the harbor is dangerous in rough weather for vessels drawing over twelve feet of water.

The Riverside Iron Works, Sam'l F. Hodge & Co., is building a new engine for the steamer Greyhound. The job is being paid for by the day, but the estimate of cost is $30,000. Each part will be a duplicate of a corresponding piece of the old engine. The steamer will also be given new boilers and feathering paddle wheels, and it is expected she will make much faster time than of old.

The Danish yacht Duen, Countess Schimmelmann owner, was badly squeezed alongside the dock by the Lehigh Valley liner Tuscarora. The damage in sight is only the loss of a cat head and a few feet of bulwarks, but the squeezing has done the little vessel's fastenings no good, although that part of it can't be seen, nor will it be felt until she meets with some more hard treatment, perhaps in a seaway.

The western liner Boston, bound up, and the barge Polynesia, bound down in tow of the steamer Caledonia, collided when abreast of Port Huron on Tuesday. The Boston stopped at Port Huron for examination. Several stanchions were broken and some of her upper works stove in. The steamer was not leaking badly and after temporary repairs proceeded to Chicago. The Polynesia continued on her trip.

The Canadian schooner Edward Blake, the craft on which McGarigle made his escape from Chicago a few years ago, lies a charred wreck on Duke Island, south of Manitoulin Island. The Blake was owned by Thomas Mills, a banker of Kingston. She went ashore on the island and caught fire while there and became a total loss. She was in charge of Capt. John Sidney, of Belleville, and valued at $3,000. The schooner had no cargo.

At the Wyandotte yards of the Detroit Dry Dock Co. the material for the new steel steamer to be built for Sandusky parties is nearly all at the yards and it is expected that her keel will be started on next week. The floors are laid for the small government steamer to be shipped to Puget Sound, and although there has been some talk of building a sister ship to the Troy for the Western Transit Co., nothing further is known of this intended new construction at the ship yard.

President Dunham, of the Lake Carriers' Association, says that he is surprised that the railroad companies persist in coming forward with piers if they seriously want a bridge across the Detroit river. He says that he does not believe that any bridge upon the plan of that proposed in the bill proposed by the Wabash and the roads other than the Michigan Central would ever pass, and that the chances grow fewer every year. President Dunham insists he knows of no change of sentiment on the part of a single vessel owner on this subject, and does not believe that there has been any.

A stroke of paralysis ended the eventful career of Capt. Robt. M. Wagstaff, of this city, on Tuesday morning. Capt. Wagstaff was well known in marine circles, having lived in Detroit since 1871. He was born in Buffalo in 1835. He began his career as a salt water sailor at an early age. When the civil war broke out he enlisted in Porter's fleet as a master's mate, and was in many engagements. When the gunboat Tulip exploded on the Potomac he was one of the three who escaped. Capt. Wagstaff took charge of the harbor of refuge at Sand Beach in 1881. He was forced to resign a short time ago on account of poor health. He was unusually well liked and enjoyed the esteem of all with whom he was brought into contact. His father, Capt. Robert W. Wagstaff, was master of the first steamer brought across Lake Erie, the famous Walk-in-the Water, and his son followed his calling of sailor, as generations of the family had done before.

CLEVELAND.

Special Correspondence to The Marine Record.

The schooners Metacomet and R. Hallaran, which were chartered by the Atlantic Transportation Company, have left for the coast.

The Globe Iron Works Co. have secured the contract to build a large steel cargo steamer to the order of Mitchell & Co., of this city.

Mr. James McBrier the well known vessel owner of Erie, Pa., visited this port on Monday on business connected with his floating property.

A dispatch from Port Stanley says that the schooner H. G. Cleveland reached that port Saturday in very bad shape. She is leaking badly.

The Specular ran into the Angeline dock when going into Ashtabula on Wednesday, and she will be brought to this port for dry docking and repairs.

The big steamer Clarence Block, which is nearly completed at the Lorain yards of the Cleveland Ship Building Company, will load coal at Lorain for Duluth.

Through the sinking of the tug L. P. Smith, when trying to get alongside of the Olympia, fireman C. McCarthy, was drowned last Thursday. The Smith has been towed into the inner harbor.

The Republic Iron Co.'s steel steamer Republic stranded on North Point, Lake Huron, on Wednesday, when bound up light. It is expected that she will be released, but the damages are sure to be heavy.

Through a consolidation of the fishing interests a large warehouse and refrigerator plant will be erected here this winter, when the fishing industry will be carried on to a greater extent than ever before.

The northerly gale kept several vessels in port on Wednesday and a steamer with a consort that ventured out had to put back for shelter. Heavy weather and a large number of casualties is the story at all lake ports.

The old revenue cutter Andy Johnson, later the naval reserve drill ship at this port, is being raised from her sunken position at the head of the old river bed. Her late purchasers thought they could fuel up and start her on the lake just as she was.

The tug Alva B, which was sunk by the steamer State of Ohio, looks as well as the day she left the hands of her builders in Buffalo. After being raised she was dry docked, given a thorough overhauling, repaired and put in excellent condition for the fall work.

The schooner Penokee, Capt. William Somerville, has cleared from Toledo on her long trip to Porto Rico. She is loaded with 1,500 barrels of illuminating oil for the Paragon Refining Company for Montreal. After discharging her cargo there, she will load lumber for Ponce, and then enter the coasting trade.

In his annual report James A. Dumont, supervising inspector general of steamboats, states that the total number of accidents to steamships resulting in loss of life was 31. The resultant loss of life was 283, an increase over the last previous year of 100. Of the lives lost 84 were of passengers and 199 of crews.

Mr. George Crassweller, assistant superintendent at the Wyandotte yards of the Detroit Dry Dock Co., was visiting friends in this city on Wednesday. Mr. Crassweller has been with the Detroit Dry Dock Co. for the past twenty-seven years, starting to work there after completing the building of the Anchor Line steamer Japan at Buffalo in 1871.

It is possible for steel wire tow ropes to give out sometimes. The Bessemer having the consort Holley in tow parted her tow rope off Stannard rock, Lake Superior, on Tuesday night, and the barge could not be picked up again until daylight. Heavy, dirty weather has prevailed over the lakes for the past forty-eight hours and many casualties are reported.

The H. A. Tuttle, owned by the Minch Transportation Co. went ashore at Michigan City when trying to make that port on Wednesday, if not a constructive total loss the damage to her hull and machinery will be very extensive. She had a cargo of corn. Her consort, the Aberdeen, was cast adrift on Tuesday night and fears are entertained regarding her safety.

The steel steamer Samuel Mitchell, Capt. Tom Wilford, blocked the draw at the B. & O. bridge near the viaduct all Saturday, tugs worked on her all they knew how but she could not be slewed out of the mud until a Nickel Plate locomotive got a line to her and straightened her up. There is great pulling power in those railroad coffee mills and this one yanked the Mitchell afloat in short order.

Intervening libels have been filed in the case against the steamer A. L. Hopkins, now in charge of the marshal at this port, by Upson & Walton, for $22.68, and by the Harbor Ship Chandlery Co. $100.38. The boat was originally libeled by the B. & O. Coal Co. The claims so far filed will amount to $1,500, and the costs will bring the amount up to $2.000. There now seems no doubt but that the vessel will have to be sold to meet her liabilities.

The wreckers have abandoned the steamer Henry Chisholm, ashore on the Rock of Ages, Isle Royale. M. A. Bradley received a telegram from Capt. Inman, who had the wrecking expedition, stating that the two steam pumps placed on the Chisholm had failed to lower the water in her hold an inch. He said it would take eight or ten pumps to

free her of water. The steamer rests on three rocks, and would go to pieces in a few hours. The crew of the Chisholm are coming down the lakes on the City of Cleveland, of the same line.

Officials of the Globe Iron Works Co., as well as members of the firm of W. G. Wilmot & Company, of New Orleans, are greatly pleased with the performance of the tug W. G. Wilmot. This tug, built by the Globe Iron Works for ocean service, is now on her way down the St. Lawrence to the coast and will continue on to New Orleans. Before leaving Cleveland the Wilmot was given a trial, on which she developed a speed of nineteen miles.

The several docks of the Ship Owners' Dry Dock Company have been very busy this week. The steamer Specular is receiving a new forefoot in the lower dock and the steel steamer Victory has been docked and bottom damage surveyed at the upper dock. The damage report of Surveyors Logan and Curr has not yet been made out but it is known that several plates will have to be taken off. In addition to the foregoing a fleet of tugs were overhauled.

The Lake Shore Railway Company has commenced the work of lengthening the Allsworth slip at Ashtabula. A steam shovel dredge and a large number of men are engaged on the work, which will be pushed forward as speedily as possible. The addition to the slip will give the Lake Shore Company over 1,000 feet of new dockage, most of which will be given up to coal loading machinery. The new dockage will be ready for use by the opening of navigation next season.

BUFFALO.

Special Correspondence to The Marine Record.

The excursion steamer Silver King was sold this week by William Voetsch to Frank F. Fox. The consideration was not given.

A survey has been held on the steamer Frontenac here this week. She caught fire and her upper works forward were badly scorched.

Capt. Wagstaff, who died in Detroit this week, made the round trip from this port to Liverpool on the bark C. J. Kershaw. This was the first voyage of the kind ever made.

The schooners Nellie Mason and Delaware, sheltered under the breakwater, dragged their anchors and went ashore on Wednesday. Tugs released them and towed them back to their anchorage.

The Donnelly Wrecking and Salvage Co. has closed a contract with the Rathborn Co., of Desoronto, to raise the sunken barge Puritan, which lies in the channel abreast of Capt. John's Island, Bay of Quinte.

Receipts at this port for one day last week shows 1,000,000 bushels of wheat and 750,000 bushels of wheat as flour. There seems to be a wild rush to get grain down from Lake Superior. The Northern Line has chartered the steamer Globe

T. A. Gillespie's dredge Rough Rider was started for Ogdensburg from the Union Dry Dock Co.'s yard on Monday. She will be delivered by her builders to the owners at Ogdensburg. It is supposed that the dredge is to be used on harbor contract work on the St. Lawrence.

It is the old story at nearly all lake harbors, vessels ground and keep grounding almost with every change of the wind. This week we have had the Boston resting on the bottom while trying to get to the Coit slip. With a slight raise of water two tugs got her to the dock without, it is thought, any bottom damage.

When the new Western Transit Line steamer Troy reached here from Duluth on Friday with the largest cargo of flour ever carried on the lakes she was given a royal salute. In addition to her record cargo the discharging of 5,000 tons, nearly 50,000 barrels of flour in ten hours, gains the record for porterage on the lakes.

The engineers' survey boat Portia ran on the red stake buoy which marks the dredged channel at Strawberry Island and broke her shaft and lost her propeller. She drifted down to Grand Island where the life-boat was launched and the boat towed to her dock. Repairs are being made as fast as possible. It appears that even survey boats can foul their own buoys sometimes, but then Uncle Sam can stand all expenses.

Nearly all the vessels arriving here this week show signs of passing through some heavy weather. Upper works and other light woodwork, and the cabins in some cases, suffered damage, while the tableware and kitchen fixings were a kinder demoralized. The actual hull damage don't show much although there has been a few cases of damaged cargo through walloping along in a beam sea. On leaving port vessels are now being put in a little better shape around the decks than usual, for a few hours may send along a snorter at any time from this on to the close.

The Yacht Racing Union of the Great Lakes will hold its annual meeting here next Saturday, for the purpose of discussing and adopting the new rules for the measuring of racing yachts that the Yacht Racing Union of North America recently adopted at its meeting in New York. Three yacht racing associations comprise the Yacht Racing Union of the Great Lakes. They are the Interlake Yachting Association, of Lake Erie, the Yacht Racing Association, of Lake Ontario, and the Yacht Racing Association, of Lake Michigan. Each one of these associations is made up of ten or more yacht clubs. The meeting here will be held at the Iroquois Hotel at 4 o'clock in the afternoon, and a banquet will follow in the evening.

FLOTSAM, JETSAM AND LAGAN.

Mrs. Lucy Belanger, 162 Jones St., Detroit, whose son was drowned through the collision between the Colgate Hoyt and the schooner Nassau, near Bar Point, asks that she be notified should the body be recovered, the letters G. B. were tatooed on his right arm, he was 5 feet 7 inches in height and 17 years old.

Mr. H. A. Knapp, of Prescott, Ont., has been spending some time in Chicago and announces that while there he succeeded in forming a strong company to carry out his roller boat patents. It will be called the Lakes Roller Boat Transportation Company and will this winter construct a large roller boat 120 feet long.

The William Cramp & Sons' Ship and Engine Building Company, Philadelphia, will soon begin work on the construction of a large dry dock. The present dock at the shipyard is much too small to accommodate many vessels needing repairs and the steadily increasing business of the company makes another basin an imperative neccessity.

The Blohm and Voss Company has received an order to build for the Hamburg-American line a passenger and cargo boat for the New York service, which will be considerably larger than the Pennsylvania and the Pretoria, and of an improved type. She is to be 600 feet in length, 66 feet in width, and 42 feet in depth, and is to be delivered in the spring of 1900.

The managers of the railroads in the Joint Traffic Association, who met in New York last week, adopted a resolution recommending an advance in rates from the basis of 18 to 20 cents, on all grain products except corn, from Chicago to the Atlantic seabord. This is the regular winter rate, established at the close of navigation. It will go into effect on November 1.

The organization of the new ship-building company projected at Richmond, Va., by Wm. R. Twigg, president of the Richmond Locomotive and Machine Works, has been completed. A meeting was held on the 17th inst. and the $300,000 authorized capital stock was all subscribed in a few minutes. W. R. Trigg was elected president, Liburn T. Myers vice president, and W. C. Preston secretary and general counsel.

A curious story is told in the British war office. Some years ago a workman was engaged in casting metal for the manufacture of ordnance at the Woolwich arsenal when he lost his balance and fell into a huge cauldron containing twelve tons of molten steel. The metal was at white heat, and of course, the unfortunate man was utterly consumed in an instant. The war department authorities held a conference, and decided not to profane the dead by using the steel in the manufacture of ordnance, and the enormous mass of metal was actually interred, and a Church of England clergyman read the burial service over it.

DETROIT MARINE POST OFFICE.

LETTERS REMAINING ADVERTISED IN DETROIT, MICH., POST OFFICE OCTOBER 27, 1898.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Allen Capt. W. F., Sch. Becker
Beggs Capt. Alexander, Str. S. J. Murphy
Baird John D.
Bliss Glenn C., Str. Aragon
Burnham John
Beener Frank
Broock W., Str. Ketchum
Brott Eugene
Ballard Clarence E., Str. G. H. Marshall
Blamgoost August, Str. G. F. Williams
Chateau Capt. W. E., Str. Aragon
Cross W. H., Str. Panther
Cowan J. C.
Crackel Frank, Str. Presque Isle
Campbell M. C.
Dubois T. H., Str. S. J. Murphy
Enright Edw. C.
Furtow Albert, Str. A. P. Wright
Forrest George, Str. S. J. Murphy
Gamble W. L.
Goodwin Frank, Str. Aragon
Gaines H. A., Str. Japan
Goodheart Thomas, Str. Aragon.
Howard Edward, Bge. Segnina
Irland Mrs. Josie
Jenkinson Geo., Str. S. J. Murphy
Lafontaine Telmond
Leng Wm.
Miller James, Str. Marquette
Marcath Henry
Monks Ira
McConville R. J., Yacht Peerless
McLellan A., Str. Uganda
McPhail James, Str. A. P. Wright
McLeod W. J., Str. V. H. Ketchum
McNamara Capt. John, Sch. T. P. Sheldon
McKinnon Alex. 3, Str. Hadley
Nicholas Wm., Str. Morse
Pocock Robt. J., Sch. Champion
Pripcorn Richard, 2, Str. A. R. Rhodes
Roberts George, 2, Sch. J. Larsen
Rehmer Fred, Bge. Mongoe
Royle James
Rose Capt. Stephen
Roberts Capt. James, Sch. J. Larsen
Stephenson Mrs. Alice
Smith Harry
Simons Richard, Bge. Malta
Shafer Wm., Str. Preston
Sweetman Fred, Bge. Monitor
Serette Capt. Paul
Thrasher George, Str. A. P. Wright
Walsh Dinnie, Sch. Herschel
Wirtz Joseph, Str. S. J. Murphy

F. B. DICKERSON, P. M.

INSPECTION OF STEAM VESSELS—THE BUFFALO DISTRICT LEADS.

According to the annual report of Supervising-General Dumont of the Steamboat Inspection Service, the growth of lake commerce and the increase of steam carriers has been something remarkable. It shows that the 9th District, in which Buffalo is included, certificates of ihspection were issued to 942 vessels, having an aggregate tonnage of 419,449. Of this number Buffalo has much the larger share, number-421. Cleveland comes next, with 310 vessels. Oswego had 151 boats inspected and Burlington but 60.

The 8th District, which includes Chicago, Detroit, Milwaukee and several other ports, has more inspectors to the credit of the district, but no port approaches Buffalo's record. Chicago having the largest number of any port of the 8th District shows but 230 vessels inspected.

The number of ships' officers licensed during the year at various lake ports was: Detroit, 389; Chicago, 585; Grand Haven, 355; Marquette, 270; Milwaukee, 453; Port Huron, 455; Buffalo, 811; Cleveland, 541; Oswego, 273.

By reference to Gen. Dumont's report, it appears that the number of vessels inspected on the lakes and their tonnage is more than 25 per cent. of the grand total for the country, the entire number for the great chain of lakes being 2,259, as against 3,744 for the whole Atlantic coast.

During the period covered In the report, from June, 1897, to June, 1898, the whole number of passengers carried on American waters was 650,000,000. Of this large number but 283 persons lost their lives by drowning. Eighty-four of these fatalities resulted among members of the crews. Thirty lives were lost in the 9th District.

A CLEVELAND CONTRACT PLACED FOR A LARGE STEEL CARGO STEAMER.

The Globe Iron Works Company closed a contract with Capt. John Mitchell, of the firm of Mitchell & Co., Cleveland, for a steamer to be a duplicate of the Hendrick S. Holden, which was turned out at the Globe yard a little more than a month ago. The new boat, which will be completed at the opening of navigation in 1899, will be 430 feet over all, 410 ft. keel, 50 feet beam and 28 feet feet deep. She will have quadruple expansion engines and three 12-foot boilers and will be fitted with Ellis & Eaves induced draft.

The company which will operate the new boat will be made up most entirely of Cleveland capitalists. It is understood that each of the stockholders will own a tenth of the boat. The syndicate interested in the steamer are vessel owners and coal shippers.

Material for the steamer has been ordered and work on her will be started as soon as it reaches the yard. The contract price of the boat is not given out, but it is reported as being upwards of $225,000. The new boat will carry 6,000 tons.

BALD-HEADED SCHOONER?

The correspondent of Fairplay, London, who asked "what is a bald-headed schooner," writes to say that Mr. James Cook's schooner, namely, a glass of beer without any froth on the top, is not an explanation of the expression which he saw in a San Francisco paper, and which plainly referred to a sailing craft spoken on a certain date, and known in that quarter as a "bald-headed schooner." We would suggest a fore and after with stump or pole lower masts, and therefore unable to carry anything above her standing or lower canvas, shorn off her top hamper, kites, or, in other words, superfluous equipment, she, the schooner, might be reported as bald-headed all right. In the case of where it took ten men and a boy as well as a big black dog to hold the captain's hair on, the hirsute growth or equipment not only kept him further away from heaven, but proved an actual detriment to the safe navigation of the craft, hence, the logical sequence: the schooner that wants to reach nearer her haven and to be safely conducted, would stand a better chance in certain latitudes if minus her upper trimmings, so as to be a pronounced bald-header. If supplied with a center board, the chances would perhaps be still better, but we must candidly admit, there are few center board bald-headers.

TWO HEAVY LOSSES.

The steamer Henry Chisholm, with a cargo of 92,000 bushels of barley shipped by A. D. Thompson & Co., Duluth, to Buffalo, ashore and abandoned at Isle Royale and the steamer H. A. Tuttle ashore at Michigan City, reported badly hogged, with a cargo of 76,000 bushels of corn, shipped by Armour & Co., Chicago, to Buffalo, are the two heaviest losses of the week.

THE Learmonth purifier is the life of some of the water-tube boilers. There are well known boilers being placed on some lake tonnage that would prove gross failures if Learmouth's patent was not used with them. The name of Learmouth ought to be held in the highest esteem by firemen, as his ingenuity saves limbs and lives daily. Tubes don't blow out so fast where Learmonth's purifier is used.

CORRESPONDENCE.

☞ We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

MIGHT HAVE BEEN SAVED.

NEW YORK, October 20th, 1898.

To the Editor of the Marine Record:

Dear Sir:—In your issue of Oct. 13 mention is made of the death by drowning of Capt. Andrew Anderson, of the schooner J. V. Taylor, who while hooking in the reef tackle fell from the boom. Having met Capt. Anderson and having been a sailor myself, I can and do sympathize with his family and friends, and regret that his boat was not equipped with a self-detaching hook seen on the steamers of the Goodrich Transportation Company, and to which my attention was called when last in Chicago. Doubtless his life might have been saved had his yawl been fitted with this hook which enables a boat to be readily detached whether the vessel is under speed or otherwise.

Very truly yours,

JAMES RICHARDSON,
23 State Street, N. Y.

WHY ARE THE LAWS NOT ENFORCED?

NEW YORK, October 24th, 1898.

To the Editor of The Marine Record:

In the issue of the New York Herald, of the 24th inst., appears a letter signed John L. Lay, late engineer, U. S. N., under the heading of "Life Boats on Shipboard," which I heartily endorse and am glad to see this important matter agitated and sincerely hope good results may follow.

Mr. Lay asks to be informed "are there no laws that bear upon this subject? If so why are they not enforced and who is the proper authority to enforce them?" Permit me to inform Mr. Lay through your valuable columns that there are laws specific and forcible that bear unmistakably upon this subject, as will be seen by reference to the U. S. Revised Statutes, Nos. 4488, 4489 and 4491. The proper authority to enforce them is the Secretary of the United States Treasury through the board of supervising inspectors of steam vessels.

Yours very respectfully,

WM. WANSTALL,
411 Western Boulevard, N. Y. City.

SHAPING AND MAKING COURSES.

(Communicated.)

The "instructions relating to use of the compass" contained in a recently published hand-book are based on the fallacy, that "the compass course is the angle the ship's track makes with the north and south line of the compass of the ship."

The forces acting on a vessel under way, are the propelling force onward in the direction of the ship's keel, the force of wind and waves, and the force of currents forming certain angles with the ship's keel. These three forces combined determine the ship's direction and speed over the ground. The first two forces determine her direction and speed on the water, which by the force and direction of currents are altered into her direction and speed over the ground, the ship like every floating body partaking of the movement of the water by which she is borne.

Thus, a vessel under way, keeping on a certain course, is sidetracked by the force or pressure of wind and waves, her actual course on the water being in the direction of the resultant of the two forces acting on her, the propelling force and the force of wind and waves; and the angle which the resultant force makes with the direction of the ship's keel is the correction for leeway. This resultant force combined with the force of current, furnish another resultant, in the direction of which the vessel is carried, in spite of keeping on the original course, and the angle between the two resultants is the correction for current. From which it is evident, that not the direction of the ship's head or keel, but the direction in which the whole body moves, is the ship's course made good. The course made good, therefore, depends on the course steered, on the correction for leeway, and on the correction for current. From which follows, that the ship's track differs from the course steered by the amount of the corrections for leeway and current combined; and that, consequently, the compass course is "not" the angle the ship's track makes with the north and south line of the compass of the ship.

By compass course is always understood the course the vessel is headed on by the ship's compass, and nothing else, which compass generally deviates more or less from the magnetic meridian; but when the amount of the deviation is known for every course, magnetic courses can be found by it. A deviated compass is, as it were, only an interpreter of magnetic courses by means of the deviation known, everything beyond this function is beyond its sphere; and, therefore, referring the ship's track to the ship's compass is in itself an absurdity. The deviated ship's compass being not represented in the chart, all references to it respecting the ship's track are of no use. The medium of communication between compass and charts are magnetic courses or true courses, consequently, all directions by compass have to be referred either to the magnetic or to the true meridian. From all of which follows, that in going from compass courses to magnetic courses the deviation is always the first correction to be applied; and in going from magnetic courses to compass courses, it is always the last correction after the corrections for leeway and current have been applied. The following may serve as an illustration:

Compass course steered N.E..... =	N. 4 Points E.
Deviation for N.E	1¼ " W.
Magnetic course steered.....	N. 2¾ Points E.
Leeway	¼ to the left
Magnetic course on the water.....	N. 2½ Points E.
Correction for current	½ to the left
Magnetic course made good.....	N. 2 Points E.
Mean variation.....	¾ " E.
True course made good.....	N. 2¾ Points E.
	= N.N.E. ¾ E.

The reverse order has to be preserved in going from true courses to compass courses.

The compass course of the track is found as follows:

Magnetic course made good.....	N. 2 Points E.
Deviation for N.N.E. magnetic.....	½ " W.
Compass course made good	N. 2½ Points E.
	= N.N.E. ½ E.

The change in the deviation requires to first go from compass courses to magnetic courses, and then back to compass courses. Therefore, the following reckoning would be wrong:

Compass course steered	N. 4 Points E.
Correction for leeway.....	¼ to the left
Compass course on the water.....	N. 3¾ Points E.
Correction for current.....	½ to the left
Compass course made good	N. 3¼ Points E.
	= N. E. ¾ N.

The change of the deviation is the principal reason why compass courses cannot be operated upon, and are confined to interpreting magnetic courses.

From all of which it is plain that any treatise on courses and the use of the compass ignoring the latters function as interpreter, and besides ignoring the corrections for leeway and current, is a failure.

Chicago, Oct. 25, 1898.

JOHN MAURICE,
Civil Engineer and Nautical Expert.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,419,000	1,751,000	865,000	163,000	876,000
Chicago	1,935,000	12,270,000	1,017,000	287,000	187,000
Detroit	120,000	187,000	12,000	32,000	67,000
Duluth and Superior	2,090,000	1,097,000	115,000	94,000	609,000
Milwaukee	40,000	.....	.....	1,000	44,000
Montreal	87,000	18,000	418,000	30,000	15,000
Oswego	.....	50,000	.....	.....	19,000
Toledo	261,000	133,000	79,000	21,000	.....
Toronto	22,000	.....	5,000	.....	21,000
On Canal	42,000	634,000	402,000	.....	313,000
Grand Total	14,848,000	24,633,000	6,164,000	1,339,000	3,204,000
Corresponding Date, 1897	24,629,000	44,772,000	15,868,000	3,310,000	3,677,000
Increase	250,000	70,000	84,000	31,000	454,000
Decrease	.....	.....	.....	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

MR. JOHN PARRY, an analytical chemist, of Newport, England, has been making a close study of the physical analysis of steel, and recently reported upon his work to the South Wales Institute of Engineers. He expressed the opinion that something of value could be obtained by the use of X-rays in the investigation of the physical properties of steel, and he is now making experiments with pieces of heated steel to ascertain, if possible, the formation or malformation of the grain.

A FAMOUS PACKING.

The Goodsell packing is now universally known as a very desirable manufacture for use in pumps. The firm is not contented, however, at producing the same grade year after year, but are constantly seeking and experimenting for improvements in their special line of trade. They have now placed on the market and applied for a patent on what they term "Wax-End Packing" (see cut), which they think and

believe will answer all present requirements in this specialty of their business.

There seems no doubt but there has been trouble in maintaining intact a square duck packing when placed in service, principally perhaps on account of the plies becoming separated by the cross travel when in motion. Such trouble seems to have been met, however, and overcome in the goods now being made by the Goodsell Packing Co., 33 South Canal Street, Chicago, who submit a sample of their "Goodsell's '98" Hydraulic, which is a plain square duck product of fine texture and excellently frictioned with rubber in the usual manner, to which is added a single row of wax thread stitching adjacent and parallel to the wearing edge of the coil, which securely holds against any possible loosening of the plies from each other and avoiding the tendency to disintegrate by the constant strain when in contact with the cylinder or plunger.

The makers offer to mail samples to any one interested. The design is simple and sensible and appears to commend itself to all users of this quality and design of goods.

THE ROBERTS WATER TUBE BOILERS.

The Roberts Safety Water Tube Boiler Co. have been operating their entire day force during the summer at their extensive works at Red Bank, N. J. Last winter their works were operated twenty-four hours per day for over five months with double gangs. They report that they had not the slightest complaint from any of the boilers that they turned out last winter, but, on the contrary, heard nothing but praise in regard to them.

Among the most notable contracts which they completed last winter were the following:

The two large boilers in the tug Dunbar, which was built by the Union Dry Dock Co., of Buffalo, for the Maytham Tug Line. This boat is said to be the most powerful tug on the lakes.

The immense dredge which was built for Hughes Bros. & Bangs also has the Roberts boilers, and is operated in conjunction with the Dunbar on harbor improvements at Buffalo.

Two large Roberts boilers were furnished for operating the triple-expansion centrifugal dredge of the New England Dredging Co., at Boston. These two boilers occupy less space than two of the three shell boilers which were formerly used, and gave all the steam that was required with a marked economy of fuel; whereas the three former shell boilers had not been able to supply sufficient steam.

Three 200 horse-power boilers were furnished to the Crescent shipyard, of Elizabethport, for each of two six-screw steamers to be used on the Yukon river. These boilers were more than a success.

The steamer Sarah A. Jenks, running between New York and Sing Sing, received two Roberts boilers on six months' trial. The boat has never lost a trip, and her owners report that a cargo of coal now lasts from nine to ten weeks, whereas it formerly lasted about four weeks.

Steam yacht Embla, 2 boilers, 1,400 horse-power.

Steam yacht Marietta, 20 knots, 1,200 horse-power.

Similar contracts might be quoted, which would cover a page of this issue, but the value of space prevents quoting them. Full information can, however, be obtained at the company's office, at 41 Cortland St., New York.

The Roberts Co. expect within thirty days to put on their night gang for this year, as orders are beginning to come in very rapidly.

Notwithstanding the fact that they have the largest works in the world which are devoted exclusively to marine water tube boilers, they were obliged to refuse thousands of dollars worth of orders last winter. We should, therefore, advise prospective purchasers to communicate with them as soon as possible.

Any responsible parties can purchase the Roberts boilers on six months trial before paying for same. This speaks volumes.

BUREAU OF STEAM ENGINEERING.

Chief Engr. George W. Melville, in his annual report, sums up the lessons of the war as follows:

"The war which has just ended is the first in which modern steam vessels have had a thorough trial, and it seems pertinent to note the more important lessons which have been taught by our experience. With respect to the machinery they are as follows:

"1. The vital necessity of giving the machinery of vessels in reserve frequent tests under working conditions, so that any defects may be discovered and remedied before war makes the vessel's services absolutely necessary. In several cases defects were found after the ships had begun cruising, and the repairs laid them up in the midst of the war.

"2. The great importance of having all our naval stations in positions of stragetic value properly fitted out for repairs and with adequate supplies of non-perishable stores. It had been evident for a long time that Key West was such a station, but money to put in a proper repair plant was refused year after year, and only granted after the war had begun. The movement of large bodies of troops and their equipment almost blocked the railroads, so that after the begining of the war it was almost impossible to secure the forwarding of tools and supplies.

"3. That fresh water for the boilers is almost as important as coal and that a distilling ship is an important adjunct of a fleet operating away from a base where fresh water can be readily obtained.

"4. That every fleet needs a repair ship to enable the efficiency to be maintained without leaving the station, and consequently that several ships should be equipped so as to be ready to proceed with the fleet.

"5. The great tactical advantages of water-tube boilers.

"6. That if more than two main engines are to be fitted, there should be three engines driving three screws, and not two main engines, on each shaft. The New York and Brooklyn had their forward engines disconnected at the time of the Santiago fight and could not stop to couple them. An accident to any part of either of the two engines on a shaft disables half the power; in the three screw ship this fraction would be only a third.

"7. That there should be frequent trials under forced draft to keep the blowers in good condition and to make the men thoroughly familiar with working under maximum conditions. It appears that some of the ships had never been under forced draft since their contract trials until the day of the fight at Santiago.

"8. That the location of the forced-draft blowers is a matter of serious importance. In some of our ships, owing to the demands for all other space for other purposes, the blowers had to be located in corners or pockets in the fire rooms, where it was impossible for human beings to give them proper attention, owing to the intense heat due to lack of ventilation. In the Cincinnati temperatures as high as 205 degrees Fahrenheit were noted, and the commanding officer, when investigating the case personally, had his face scorched. The blowers must be set where they can be properly cared for or else they are useless, and might as well be left on shore.

"9. That the personnel of the service should be adequate to the material. It has been notorious for some time that this is not the case, and we are providing for a decided increase in the number of vessels with no increase whatever in the personnel. By sending nearly every officer on the active list to sea we were able to give the regular ships a complement of trained ones, but had the war been of long duration we should have been greatly embarrassed to supply the places of those disabled or invalided. Volunteers, however well trained in other ways, cannot replace the regular officer.

"10. That we must make provision for training the enlisted men of the Engineer Department. Many of the colliers and auxiliary vessels had to start out with absolutely green crews, many of whom, so far from having the 'sea habit,' had never been on a vessel of any kind. This must be remedied if our enlarged fleet is to be efficient.

"11. That our fighting ships must have the highest practicable speed. There is an almost general agreement on this point among naval men, but if any had thought this did not apply to battleships the fight at Santiago must have shown that the highest practicable speed is just as important in these vessels. It is very gratifying, therefore, that our three new battleships are to have speeds of at least 18 knots, which is now recognized as the standard."

The Bureau of Steam Engineering has expended during the year $1,922,054.23,and has in the Treasury, $4,743,559.27.

By far the greatest amount of labor to the bureau was occasioned by the necessity of fitting out the auxiliary navy, consisting of some 110 vessels of all kinds and containing all sorts of machinery, which often needed repair or alteration. There were so many break-downs in this class that Chief Engr. J. W. Thompson, and afterwards Chief Engr. Charles W. Manning, were detailed to aid Chief Engr. Little, of the Key West station.

As to the performance of naval machinery, barring the torpedo boats, there was a remarkable absence of casualty in the machinery departments of the vessels of the fighting squadrons during the period of the war. Even in action, when forced draft conditions were in operation, and the excitable natures of the men most wrought upon by the surroundings, the reports show that the machinery not only worked well generally but that in no case was it greatly distressed. This is as fine a commentary upon the personnel as on the machinery. It is greatly to be regretted that the torpedo boats cannot show the same excellent records for their machinery, but it is a sad fact that nearly every one has had some accidents, and the machinery of some at the close of the war was in a condition which can only be described as horrible, where boilers were burnt, cylinder covers broken, pistons and valves stuck and everything in bad shape. This condition of affairs seems attributable to two causes, the absence of trained engineering supervision and the use of the boats for duty to which they were not adapted.

Although the steam turbine itself was not a novelty in engineering, owing to the skill with which its economy has been developed in England by the Hon. C. A. Parsons, its application last year to propulsion on the Turbinia was a decidely novel step, and the remarkable performance of that little vessel of 42 tons displacement in attaining a speed of over 31 knots attracted the attention of engineers and shipbuilders all over the world. While an analysis of the published data of the performance would seem to indicate that the boiler was the most remarkable part of the machinery rather than the turbine, the fact remains that the combination enabled a phenomenal record to be made, During the year the bureau has been carefully investigating the adaption of the steam turbine to naval uses, has kept informed of the progress of experiment of two forms of turbine being developed in this country, and has been represented at an economy test of one of them. Thus far the results obtained do not warrant an expectation of the substitution of the turbine for the steam engine in the near future, but the experimental work will be carefully watched so that, should further experience warrant the use of the turbine, the service may be among the first to profit thereby.

The report urges the importance of building our machinery in classes with identical machinery for vessels of each class and regrets that the result of inviting alternate bids is to introduce several varieties of machinery even in torpedo boats and destroyers, where uniformity is especially necessary. "The theory on which the alternative bids are invited is that all the skill in the designing of hulls and machinery is not confined to the bureaus of the department, which, of course, is true; but it is just as true that the designers of the department, who confine themselves to this class of work, ought to be and are better able to decide what will best answer the needs of the service. * * * If bidders submit plans containing features superior to any in those of the department it would be foolish not to adopt them, but in my judgment, the adoption should consist of a modification of the department plans to that extent, so that all builders would have to follow them."

VESSELS CLASSED.

The following vessels have just been classed and rated in the "Record of American and Foreign Shipping" by the American Shipmasters' Association, New York: American terns Clara Leavitt, Harold B. Cousens, Harry Prescott, Henry Crosby, D. Howard Spear, Helen Montague and General S. E. Merwin, and British bark Cambria.

A NUMBER of meteorologists have taken advantage of the British Association meeting at Bristol, England, to propose a plan for a magnetic survey of the globe. The first step is to improve the numbers and distribution of observation stations. In this work the United States can bear a most important part owing to its possession of Hawaii. The position of the Sandwich Islands is unique, being central to a vast unexplored or magnetically unknown region, and well adapted for the special study of the modifications which the diurnal and secular variations of the magnetic needle are supposed to undergo in consequence of a surrounding ocean, as contrasted with a continental surface. The United States was represented at the conference by Mr. Schott, of the Coast and Geodetic Survey.

BUSY TIMES ON THE ST. LAWRENCE.

At the present time one of the largest and most interesting enterprises ever conducted on the St. Lawrence river is being carried out by the manager of the Atlantic Transportation Company, Mr. W. S. Besse, of New York. This company was organized about a year ago, with a paid-up capital of three million dollars, with the intention of engaging, on a more elaborate scale than any existing company was doing, in the coal carrying trade of the Atlantic coast. A contract was at once closed with the Chesapeake & Ohio railway, probably the largest overland coal carriers on the continent. Within a few weeks a fleet of forty barges, eight ocean tugs and four steamships had been put into service. This fleet however, has proved entirely inadequate to the demands of the trade, and it was decided at once to double its size.

Accordingly, on the 15th, of September last, Mr. Besse, left New York for Buffalo, Toledo, Cleveland, Detroit and other lake-port towns, to purchase the vessels. Incredible as it may seem, the fact remains that within thirty days he had completed the work of buying forty-four vessels, the total carrying capacity of which is 71,000 tons, and by the 3rd of October the first barge was at Cornwall. A Canadian daily states that in all nine steamers, at an average cost of $50,000, were purchased, and thirty-five schooners, at an average cost of $20,000, or a total investment of $1,150,000.

But having bought the fleet, the task had only begun. The problem was how to get it to its destination, Newport News, Va. Many of the vessels were too long for the locks of the Beauharnois canal, and the only alternative was to run the Cascade rapids. This was not a very promising undertaking in view of the fact that only three vessels had made the attempt, and in each case an accident was the result. The pilots assured Mr. Besse, that a channel of even seven feet could not be secured to the Split-rock rapids. Investigation, however, led to the undertaking of the task, and now one-half of the big fleet is safely harbored at Quebec, without an accident. The pilots of the American Line, which plied between Montreal and Kingston this summer, have been doing the pilots' work through the Cascades, and raft-pilots have been running the Split-rock rapids. Four tugs belonging to the Donnelly Wrecking Company have been engaged in the work, the Chieftain and Rival, working in the rapids, and the Reginald and Island Wanderer, towing between Cornwall and Ogdensburg, If the same good fortune and weather that has attended the enterprise so far are continued, Mr. Besse thinks that $60,000 will land the fleet at the Gulf by the 1st of November.

Mr. Besse, manager of the Atlantic Transportation Company, of New York, who has been identified with shipping interests all his life, gave it as his opinion that the time foretold by Sir Wilfrid Laurier, when 90 per cent. of the grain trade of North America will be carried down the St. Lawrence, is not far distant. This year the Parry Sound line will handle fifty million bushels of grain, at a saving of over a quarter of a cent per bushel in freight rates over former years.

FLORIDA-ROBY CASE TO BE APPEALED.

The total amount claimed by the owners of the steamer Florida, sunk by the Roby in Thunder Bay last year, was $100,000, and by the owners of her cargo of package freight $70,000. The aim of the attorneys for the Florida was to fix either the whole or part of the blame on the Roby, and they succeeded in the latter, according to the opinion handed down by Judge Swan. In either case, the Roby could be held liable for her own value, which had been appraised at $59,000. This entire amount is required by the decision to be paid her underwriters, Smith, Davis & Co. The $70,000 loss on the cargo is already paid. Part of it was held by McCurdy & Prime and part by the British and Foreign, through Johnson & Higgins, of New York. The $59,000 will probably be divided between the Florida's hull and cargo, in proportion to their respective losses. McCurdy & Prime also had the insurance on the Florida.

But before all this is done there will be another long delay in the courts, as it is understood the attorneys for the Roby intend to carry the case to the United States Court of Appeals.

It was the opinion in Detroit among vesselmen who heard the testimony that all the blame would be saddled on the Roby, as it was shown that at the moment of the collision her lookout was aft, helping one of the deckhands uncouple hose. But the Florida was going at a rate of speed entirely out of accord with the law, hence was considered partly to blame. "Bare steerageway," the law demands, shall be the rate of speed of steamers in fog under certain conditions.

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STEERING AND SAILING RULES.

It has been the province of the MARINE RECORD to repeatedly call for the suppression or non-publication of the utterly useless and misleading diagrams printed in a large portion of the literature sent out from the office of the Supervising Inspector General of Steamboats, but up to the present we have not quite succeeded in so doing, though we may flatter ourselves that the work of several years has not been entirely in vain.

These diagrams are supposed to show seven situations in which steamers, and steamers only, may be placed, sail tonnage, or its relation to steam as regards the "rules of the road" being completely ignored, however, steam must always give way to sail and keep clear, so, perhaps, any diagrams relating to both steam and sail vessels would be superfluous, and in point of fact and practice, the seven diagrams regarding steamers are also unnecessary.

Our attention has been presently directed to a reproduction of these diagrams in the Masters' Manual, an annual published by a firm of Chicago underwriters representing vast capital. The Manual is distributed gratis to the sailing community with the laudable intention of lessening the casualties of stranding, collision, etc., thereby reducing insurance premiums to the owners as well as tending towards a more stable schedule of rates on good risks and improving the business of lake underwriting.

The sailing community is quite familiar with these useless diagrams, as, according to rule, they are tacked up in a conspicuous place on board of every steamer. We therefore can but ask any reader to follow us over these diagrams and see of what efficiency or practical use or benefit they can possibly be towards guiding masters and pilots on the open lake.

Diagram, first situation, steamers meeting end on would show three lights to each other, the two colored lights only are mentioned, the diagram has no point as there is no alternative for either vessel except to port, each must act, there is nothing left to the will, discretion or judgment of those in charge, as the one simple, mandatory and compulsory movement is to port on each vessel seeing three lights ahead, not two lights, for the only inference to be drawn from seeing two lights ahead would be that they were sailing vessels on opposite tacks. Yet this is what the Board of Supervising Inspectors of Steam Vessels foist upon the sailing fraternity and leads so valuable a little brochure as the Masters' Manual to distribute gratuitously for the further misinformation of the lake pilot. It is only begging the question to say that steam is understood, seeing two and only two colored lights ahead, argues two sailing vessels carrying a soldier's wind, and in such a case everything is left to the discretion of the giving way vessel, or at least up to the point of imminent danger.

Diagram, second and third situations, there is no point evident, because there is no action to be taken, there is no danger of collision, each vessel proceeds, maintains her course and speed as if each was a thousand miles fron one another. Then what is the cause or reason of publishing the diagrams?

Diagram, fourth and fifth situations, are identical and fully covered by Rule 18. They simply show that a steamer having another on her own starboard side gives way.

Diagram, sixth and seventh situations: These diagrams do not bear the harmless relations of the previous ones, but are dangerously misleading, as we are told that the crossing steamer is to keep her course and speed in each instance. If the illustration or diagram means imminent danger, without which, they lose their point, then the authorized government instructions are at variance with good seamanship in handling steamers placed in those positions.

As the publishers of the Masters' Manual courteously ask for suggestions which may enhance the next issue of the work, we would say, leave out these diagrams altogether, yet, if something of the sort is considered desirable, then substitute them by inserting diagrams that may contain some information to those who are not experts in the "rule of the road."

NOMENCLATURE OF VESSELS.

Attention may be called to the very pertinent ruling of the Commissioner of Navigation regarding the nomenclature of vessels as contained in another column of this issue of the RECORD.

We have often remarked, and the sentiment has been approved by a number of vessel owners, the inappropriateness, if such it may be termed, of the names given to even important tonnage. Of course, it is of little or limited consequence under what name a ten to fifty ton hooker may sail, but there is a vital and commercial importance attached to the names given to vessels which enter into the carrying trade of the world, as also to the larger vessels engaged in the lake trade.

Not only a repetition, but even a similarity of names has frequently caused a period of mental anguish to the relatives of those on board of a vessel inexactly reported as meeting with a casualty, disaster or an abandonment. An initial letter or any slight transposition is at all times liable to occur, nor would it be the first time that owners, underwriters, shippers or consignees were sent scurrying around for later reports through inaccurate spelling or the simple transposition of letters in a vessel's name.

The Bureau of Navigation is to be commended for thus making public its preferences on this important subject, for, be it understood, that as yet there is nothing mandatory or compulsory about the recent ruling sent out by the Hon. Eugene T. Chamberlain, Commissioner of Navigation. It is simply suggested that the Bureau requests or would prefer that in changing a name, that is re-naming, or when names are given new vessels, they should consist of but one word, and this as we have said is a commendable departure, or perhaps innovation.

This request from the Bureau of Navigation has been brought about through an application to have the name of the schooner Frank and Murray McNamara changed. The vessel is under fifty tons and hails from Baltimore, Md. The new name asked for through change of ownership, while somewhat shorter than the former appellation is loaded down with a repetition of initials, and, while the craft is small, thus limiting the degree of importance in relation to the nomenclature observed regarding larger tonnage, the principle involved remains in the same proportion.

It has been argued that because one vessel was built of iron or steel and another of wood, or, because one was a steam and the other a sail vessel, or again, that they hailed from different ports, etc., that such was a sufficient distinction and reason enough for a duplication of names, especially as vessels are only known officially by numbers, but, we rather incline to the belief that the personal and commercial interests involved are of much more importance during a vessel's career than the official number she may bear as granted by the country under whose flag she may be sailed, and, in accordance with these views, as also in support of the suggestion of the Commissioner of Navigation, we once more advocate the simplifying and distinctiveness of the nomenclature of vessels.

SHIPMASTERS ARE HUMAN.

The Detroit river collision between the line steamers Conemaugh, owned by the Erie & Western Transportation Co., and the New York, owned by the Union Steamboat Co., is well within the memory of the sailing community as well as being kept in view by owners and underwriters, especially the latter, as there is about $75,000 still involved between the several insurance agencies.

The above collision, whereby the Conemaugh was sunk, occurred on the evening of October 21, 1891, a short distance below Sandwich, Ont., and as early as possible thereafter a libel was filed in the District Court for the eastern district of Michigan by the owners of the sunken steamer against the owners of the New York.

It is our intention to point out that Admiralty Courts, at this time and in these latitudes, are by no means infallible. It is also our desire to exonerate, as far as possible, a shipmaster whose ability and skill was unnecessarily and unmercifully scorched by the honorable judge of the District Court. Furthermore we assert that shipmasters are human, and as such, are liable to err at some time or other. Further than this we may not venture an opinion as the case is not yet closed; yet, there can be only a modicum of justice awarded to the innocent culprit in the RECORD'S touching upon the renderings of the court.

Swan, District Judge.—"The faults of the New York are so many and flagrant that it may be doubted if judicial records afford a parallel to the negligence and recklessness of her navigation."

"Her master and lookout, if she had one, were either incompetent or grossly negligent of their duties."

"Under the circumstances these offenses were scarcely less vicious than the criminal negligence." * * *

"A fitter case for the exercise of the disciplinary power committed to the inspectors of steam vessels than that afforded by the navigation of the New York can scarcely be imagined. Revocation of the license of her master, or an extended period of suspension, would have a salutary effect in promoting the safety of life and property on the lakes."

The foregoing is a hard old roast for a shipmaster, from the honorable court, or rather several roasts, in fact an extra dose of vituperative fuel seemed to be shoveled on at each revolution of the court's vocabulary. Someone might have hinted, if only to support the dignity of the court, that it might be prudent to "clap a stopper on the jaw-tackle" or the local inspectors of steamboats might notice the screed and take away the master's bread and butter. Considering that the harangue came to a finale by ordering that the costs be equally divided, the poor fellow must have shook hands with himself after all.

After a period of about four years, an answer and cross libel being filed, a rehearing took place, when the former decision was rendered void, and the New York was this time held solely in fault. This time we suppose the master felt like going around the block and administering to himself a severe flagellation.

Taft, Circuit Judge.—Opinion of the Court of Appeals.

" * * * This clearly shows that the New York had the right to maintain her speed, as well as her course, unless there was to her some distinct indication that the Conemaugh was not going to keep out of her way by porting, She received no such distinct indication until the Conemaugh suddenly starboarded her helm, and swung across the fast approaching bows of the New York, and then it was too late to avoid the catastrophe. We find, then, that it was the fault of the Conemaugh, which alone caused this collision, that the libel of her owner should therefore be dismissed, and that on the cross libel of the owner of the New York a decree in personam against the owner of the Conemaugh for the agreed damage to the New York should be entered. This conclusion disposes also of the petition of the intervening insurance companies, which must also be dismissed. The decree of the District Court is therefore reversed, with directions to enter a decree in accordance with these conclusions."

Here's the time that the poor maligned shipmaster threw his chapeau in the air, and sang the Daniel come to judgment air.

The case is now before the Supreme Court of the United States, and as several important points are involved, the final decision will be of the greatest possible interest to the marine community when reached in the spring.

The moral to this is, that courts may judge and decide according to the law, but scolding, vituperation, or assuming an air of professional disgust is uncalled for.

THE annual report of the Supervising Inspector General of Steam Vessels has just been made public. It shows that 2,259 steamers of 824,636 gross tons were inspected and that 4,497 officers were licensed for the lake trade. A resume of the report will be given in the next issue of the RECORD.

EVEN admiralty lawyers are not always as precise in their terms as they might be when engaged in maritime litigation, or when as plaintiffs or defendants they endeavor to "horn-swoggle" the court into their way of thinking, or rather as they would like the court to think. For instance, miscellaneous cargo is good, yet when applied to the same cargo, flour and general merchandise is perhaps a trifle better than the term package freight, but why not say general cargo at once and state the lading of a mixed cargo in universally known parlance. There's not much need of drawing the line so fine, and yet there may be too, as for instance, a certain witness, or rather principal in a case, swore that his cargo consisted of fruit and valuable timber. Being pressed to be more explicit regarding the lading, he reluctantly admitted that the fruit was "pertaters," "apples of the earth," and the timber, broom handles.

A COMMISSION has been appointed by the War Department to look into the plans of the Soo Canal Power Co. It is conceded on all sides that another outlet from Lake Superior will eventually lower the lake two feet, but the engineers show that by building a solid system of stone dams or piers into the rapids, where the overflow from the lake is now carried off, the water can be retarded there sufficiently to equalize the loss through the canal, and thus keep Lake Superior as it stands now. The water power company has plans for this work prepared, and the commission appointed by the War Department will examine them and also visit the "Soo" to make sure on behalf of the government that shipping interests will not suffer.

OWING to a pressure of space in our columns this week we have been compelled to withhold several rather important communications.

ESTIMATES FOR LAKE, RIVER AND HARBOR WORK.

The annual report of Brigadier General John M. Wilson, Chief of Engineers of the United States Army, has been made to the Secretary of War. His estimates for next year's river and harbor work include the following:

Harbor at Duluth Minn., and Superior, Wis., $300,000; Ashland harbor, Wis., $50,000; waterway across Keweenaw Point, Mich., $65,000; Marquette harbor, Mich., $50,000; harbor of refuge, Marquette Mich., $30,000; harbor of refuge, Grand Marais, Mich., $50,000; Oconto harbor, Wis., $25,000; Sturgeon Bay and Lake Michigan canal, Wis., $30,000; harbor of refuge, Milwaukee, $75,000; Fox river, Wis., $50,000; Chicago harbor, $137,000; Calumet harbor, Ill., $150,000; Calumet river, Illinois and Indiana, $100,000; Illinois river, $100,000; Illinois and Mississippi canal, $1,427,740; Michigan harbor, Ind., $75,000; St. Joseph's harbor, Mich., $75,000; Kalamazoo river, Mich., $50'000; Grand Haven harbor, Mich. $30,000; Grand river, Mich., $100,000; Muskegon harbor, Mich., $60,000; White Lake harbor, Mich., $35,000; Pentwater harbor, Mich., $25,000; Ludington harbor, Mich., $25,000; Manistee harbor, Mich., $30,000; harbor of refuge at Portage Lake, Mich., $75,000; Frankfort harbor, Mich., $45,000; Charlevoix harbor, Mich., $25,000; Petoskey harbor, Mich. $25,000; Hay Lake Channel, Mich., $200,000; Saginaw river, Mich., $25,000; harbor of refuge, Sand Beach, Mich., $100,000; Detroit river, Mich., $100,000; Toledo harbor, Ohio, $150,000; Sandusky harbor, Ohio, $100,000; Huron harbor, Ohio, $40,000; Cleveland harbor, Ohio, $400,000; Fairport harbor, Ohio, $150,000; Ashtabula harbor, Ohio, $100,000, Conneaut harbor, Ohio, $150,000; Buffalo harbor, N. Y., $485,498. Tonawanda harbor and Niagara river, N. Y., $100,000; Oswego harbor, N. Y., $50,000; Cape Vincent harbor, N. Y., $75,000.

Taking up the important subjects of river and harbor improvements General Wilson says experience has shown that the system of providing funds for carrying on continuously, or completing certain works has heretofore resulted in materially reducing cost. He says significantly that if this system is restricted to works fully justified by the interest of commerce, it will prove an economical one, providing the appropriations are so made as to avoid delays in payments to contractors. He points out that some difficulty has already been met in endeavoring to convince contractors that they may look to Congress for full payment if they push the work. The total amount spent for the improvement of rivers and harbors and incidental expenses ending June 30 last, was $17,161,799. The total estimates for the year 1900 on the same account are $12,883,437 for continuous work, and $15,588,341 for projects not covered by continuing contracts. The chief of engineers asks that Congress authorize him to present special estimates for such work as are necessary to navigation.

A COMPLEX DIAGRAM.

The accompanying diagram is contained in pamphlets, etc., issued from the office of the Supervising Inspector General of Steamboats and is also printed on the certificates of all steamers and exhibited in a conspicuous place on board vessels, as an example how to act when in danger of colliding with other vessels.

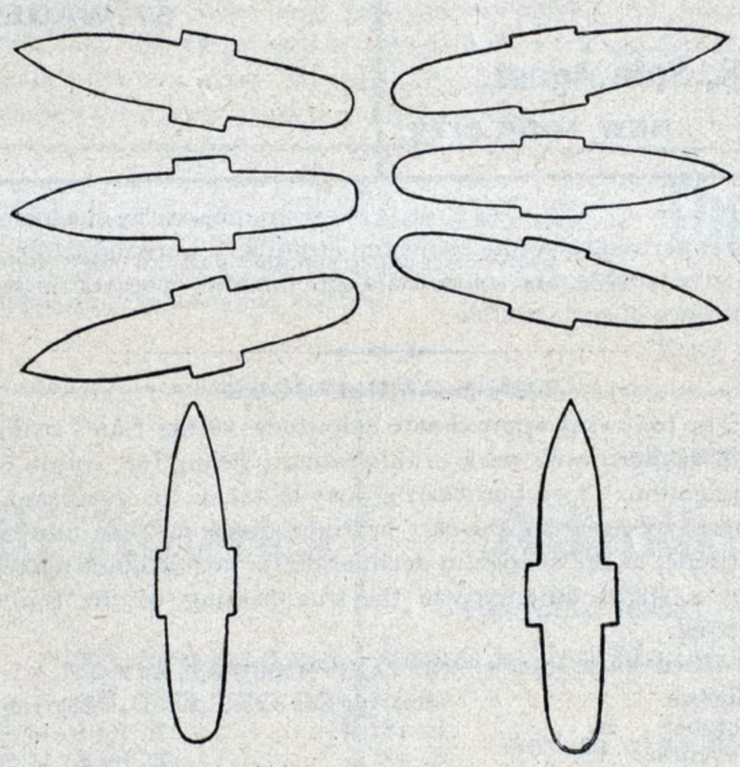
This diagram is what is shown as the sixth and seventh situations, and if there is any pith or point to the example it means imminent danger and should come under Rule 27, instead of the one vessel either porting or starboarding.

In the seventh situation the steamer is told to starboard her helm, when, if it is not a case of imminent danger, she whould be the standing on vessel, as the other steamer has her to starboard and is the giving way craft. But, why these instructions to alter the helm? There is a distinct infraction of Rules 18 and 20 in permitting the steamboat inspection service to so instruct, or rather mis-inform masters and pilots. It is positive that the supervising inspectors can not overrule the statute which prescribes that a steamer having another on her own starboard side shall give way. It is not for them to say how she is to give way, or keep clear, as that is a circumstance of surroundings or location, and varies under different conditions, even influenced at times by the state of the sea, wind or weather.

In the positions as shown in the diagram, the Board of Supervising Inspectors authorize as follows:

"A steamer approaching another crossing her bow at or nearly at right angles, as represented in diagrams of the sixth and seventh situations, shall, if approaching the crossing steamer so near as to involve risk of collision, port her helm, when seeing only the red light of the crossing steamer; and starboard her helm, if only the green light is in view."

Rule 18 states: When two steam vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way of the other.



There is nothing in the foregoing whereby it is mandatory for the giving way vessel to port or starboard, although a risk of collision is involved, and, in this connection we hold that there is no point, sense or reason in presenting diagrams or examples where the collision risk is not in direct evidence.

The position where the steering and sailing rules may be thrown overboard altogether and each vessel act for the best is contained in the following clause:

Rule 27. In obeying and construing these rules due regard shall be had to all dangers of navigation and collision and to any special circumstances which may render a departure from the above rules necessary in order to avoid immediate danger.

We can hardly conceive that a supervisor's rule to port or starboard can alter the foregoing. Given such a construction, when a steamer has another on her own starboard hand, even when practically crossing the course of another, to port in every case is not only in derogation of the statute, but is unreasonable, unseamanlike, and likely to lead to a positive danger, at least such is the view that we take of this peculiar diagram at this time. We can not say that the diagram shows an impossible situation, yet it lacks the elements of arriving at a proper conclusion. Imminent danger of collision seems to be involved and yet the somewhat contradictory instructions seem to permit a fairly ample margin of time in which the one vessel only may act so as to get out of the dilemma, or pass the colliding point.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DISTRICT,
CHICAGO, ILL., October 25, 1898.

GRAND TRAVERSE BAY (LAKE MICHIGAN) WRECK SPAR BUOY. Notice is hereby given that on October 21, 1898, a spar buoy, painted red and black horizontal stripes, was established in 46 feet of water on the northerly side of a sunken wreck (schooner A. J. Rodgers,) in Grand Traverse Bay (Michigan).

The wreck lies about 4½ miles N. ⅛ W. of Old Mission Point light-house, in 7½ fathoms of water. Both masts were carried away. The foremast was secured by wreckers and the mainmast is now floating above the wreck, held by rigging. The end of jib-boom is 12 feet under water.

Right tangent Grand Traverse Point N. 13° 35′ W. (N. by W. ¼ W.) 9½ miles. Left tangent New Mission Point S. 78° 17′ W. (W. by S.) 4½ miles. Old Mission light-house S. 1° 45′ E. (S. ⅛ E.) 4¼ miles.

Bearings are true; miles are statute miles.

By order of the Light-House Board. C. O. ALLIBONE,
Commander U.S.N., Inspr. 9th L. H. Dist.

TREASURY DECISIONS.

NAMING OF VESSELS.

TREASURY DEPARTMENT,
BUREAU OF NAVIGATION,
WASHINGTON, D. C., October 18, 1898.

Sir: This office is in receipt of your letter dated the 17th instant, transmitting an application by Mr. Harvey H. Conway, for a change in the name of the schooner Frank and Murray McNamara to H. H. Conway.

In view of the great inconvenience which often arises from the fact that initials are included in the names of vessels, the bureau requests that you suggest to the applicant that the vessel be named simply Conway.

In many cases presented to this office, the last name of the vessel only is given, as, for instance, Gresham instead of Walter Q. Gresham, and considerable difficulty is experienced in ascertaining from the alphabetical indexes the identity of the particular vessel to which reference is intended to be made. Some difficulty and inconvenience must also occur in the case of communications between private persons, and the bureau prefers that in all cases where new names are given to vessels they shall consist of but one word.

You will please advise accordingly the owners of vessels applying for official numbers or for change in names.

EUGENE T. CHAMBERLAIN, Commissioner.
COLLECTOR OF CUSTOMS, BALTIMORE, MD.

LAKE FREIGHTS.

The week opened with corn at 2½ cents Chicago to Buffalo, and 3½ cents reported on wheat from Duluth; iron ore 80 cents from Escanaba on special cargoes, but the rates standing at $1 from the head of the lakes; 90 cents Marquette, and 50 cents Escanaba; coal rates steady but with no advance.

On Friday 3 cents on corn was the rate out of Chicago, with brisk chartering, every vessel on the market being placed; on coal 50 cents was offered from Buffalo to Chicago, and 25 cents to Lake Superior; canal rates went up to 3 cents on corn from Buffalo to New York.

On Monday the Georgian Bay rate from Chicago dropped ¼ cent, or from 2½ cents to 2¼ cents vessels going from there to Lake Superior, thus making a triangle trip of it for an extra cargo.

On Tuesday grain rates dropped to 2¾ cents on corn from Chicago to Buffalo owing to a surplus of tonnage. The Chicago coal rate from Buffalo was firm at 50 cents. Coal from Cleveland to Lake Superior 25 cents, Lake Michigan 50 cents. The Lake Superior to Buffalo rate is still held at 20 cents.

Coal rates from Ohio ports have now settled to 25 cents to the head of Lake Superior, and 50 cents to Portage and Lake Michigan.

An effort was made to force the Duluth grain rate down ¼ cent, but it is steady at 3½ cents, with a 4 cent November rate looked for. Erie canal rates 3½ cents on flaxseed and 2⅝ cents on corn to New York.

The wheat movement from the head of the lake during the current calendar month promises to equal one-third the volume of all the last year crop. Receipts of 3,258,599 bushels last week brought the total for the month to date up to 10,538,197 bushels. Receipts at Duluth since the new crop began moving foot up 25,812,281 bushels more than half as much as all the last crop. In the same period a year ago 18,686,348 bushels were received. Since the new crop began to move 24,129,988 bushels have been shipped. Shipments last week were 2,996,143 bushels.

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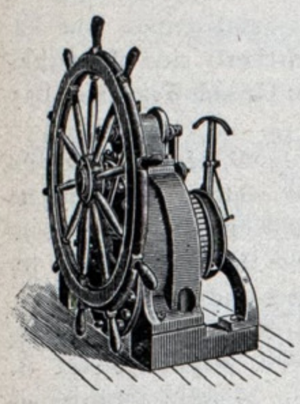

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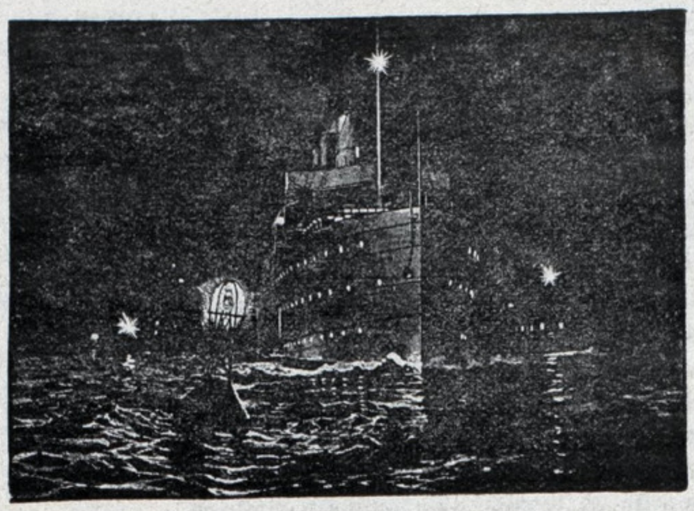

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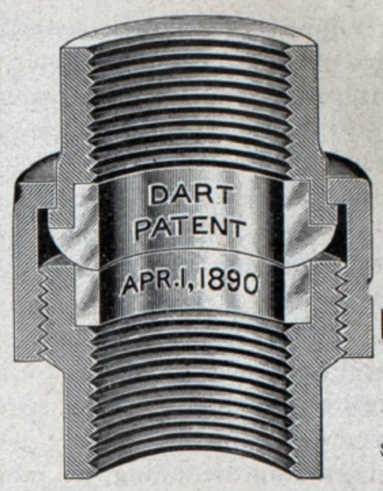

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LIST OF PAPERS TO BE READ BEFORE THE SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS, NEW YORK.

THURSDAY, NOVEMBER 10, 1898.

1. Torpedo Boat Destroyers for Sea Service, with Special Reference to the Conditions that Prevail on the Pacific Coast. By G. W. Dickie, Esq., Member.

2. The Standard Navy Boats. By Arthur B. Cassidy, Esq., Member.

3. Bilge Keels and Rolling Experiments U. S. S. Oregon. By Asst. Naval Constructor Lawrence Spear, U. S. N., Member.

4. Steam Economy Test of a Unique Form of Feed Pump. By F. M. Wheeler, Esq., Member.

5. Portable Pneumatic Riveters in Shipbuilding. By W. I. Babcock, Esq., Member.

Topical discussion of the following questions: 1st. The Utility of Torpedo Boats, and has the Sub-Marine Boat a place? 2nd. In what respects have the recent naval engagements affected opinion as to the value and best distribution of armor for war ships?

FRIDAY, NOVEMBER 11.

6. The Steam Yacht as a Naval Auxiliary. By William P. Stephens, Esq., Associate.

7. Designs of the New Vessels for the U. S. Navy. By Chief Constructor Philip Hichborn, U. S. N., Vice-President.

8. Methods of testing Water-Tight Bulkheads in U.S. Navy. By Asst. Naval Constructor H. G. Smith, U. S. N., Associate.

9. Tests of the strength of a Longitudinal Bulkhead Separating two Engine Rooms. By Naval Constructor J. J. Woodward, U. S. N., Member.

10. An Electrically Operated 150 Ton Revolving Derrick. By Walter A. Post, Esq., Associate.

11. Stability of a Battleship under Damaged Conditions. By Prof. Cecil H. Peabody, Member.

Topical discussion of the following questions: 1st. Under the circumstances of the blockade at Santiago, which was the more economical method of maintaining the boilers in readiness for immediate action—banking the fires or keeping them spread but very thin? 2d. Can you give any data as to the cost in coal of maintaining the engines and boilers in readiness for immediate service? 3d. What, if any, difficulty was there in maintaining the supply of fresh water for the boilers; and, if there was any difficulty, to what do you attribute it? 4th. As a result of experience on the blockade, what particular points about the machinery were most likely to give trouble, and what could be done to prevent a recurrence of such trouble?

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset by reversing the east bearings given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting:

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Bearing.	Bearing.
October 29	E. 18° S.	E. by S. 5/8 S.
November 1	E. 20° S.	E. by S. 3/4 S.
November 4	E. 21° S	E. by S. 7/8 S.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Bearing.	Bearing.
October 29	E. 19° S.	E. by S. 5/8 S.
November 1	E. 20° S	E. by S. 3/4 S.
November 4	E. 21° S	E. by S. 7/8 S.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing.	Bearing.
October 29	E. 20° S	E. by S. 3/4 S.
November 1	E. 21° S	E. by S. 7/8 S.
November 4	E. 22° S	E. S. E.

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Bearing.	Bearing.
October 29	E. 20° S	E. by S. 3/4 S.
November 1	E. 22° S	E. by S. 7/8 S.
November 4	E. 23° S	E. S. E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied, will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

THE Scientific American of October 22, contains a front page illustration of one of the old Sandy Hook pilot boats (No. 5) and the new pilot boat New York; also an interesting article upon "The Pilots and Pilot Boats of New York."

A STEEL STEAMER TO BE BUILT BY THE CRAIG SHIP BUILDING CO.

After due consideration and consultation with Toledo capitalists, the Craig Ship Building Co., Toledo, O., has determined to build a steel vessel of the finest type to meet the change which will occur next year in the grain carrying trade. At the present time, most of the grain shipped over the lakes goes to New York, and is there transhipped to European ports.

The lower Canadian canals by June 1, 1899, will be so enlarged that vessels of the capacity of the Welland canal will be able to get through to Montreal. This will permit boats of the capacity of about 2,000 tons, or 80,000 bushels of grain to transport grain from Duluth to Montreal without breaking bulk. There are few vessels on the lakes that can reach this maximum capacity, and yet go through the canals.

The vessel that the Craig Ship Building Co. intend to construct will be about 260 feet over all, 42 feet beam and 25 feet depth of hold, and will have a capacity of 2,000 tons on 14 feet draught. She will have large power, so that she can tow two consorts of equal capacity to her own. The Toledo Blade states that she will be built under the rules of the American Shipmasters' Association and classed in the "Record of American and Foreign Shipping" A1 for the longest term of years given by that classification society, which is the universally known, reliable and accepted registry for all American as well as a large proportion of the tonnage of foreign nations. She will have surface condenser and all salt water appliances which are necessary for navigating the ocean. She will be completed and ready for business in the spring of 1899.

With the splendid equipment for building any kind of vessel, the Craigs will build the new boat in a way that will make her complete in every detail and it may be anticipated that the new steamer to be launched in the spring of 1899 will be followed by others.

EASTERN FREIGHT REPORT.

In their weekly freight report to the RECORD, of the eastern situation, Messrs. Funch, Edye & Co., New York, state that although not quite so large as the list of grain charters in their last report, the number of presently reported fixtures would doubtless have been heavier had the amount of ton-

nage offering been quite up to shippers' demands. Freights for large boats for picked points have advanced from 1½d. to 3d. per qr., the latter figure applicable to spot or very prompt tonnage; for Cork f. o. the advance amounts to 1½d. per qr. December boats continue at a discount, or about 1½d. per qr. against November, whilst fixtures beyond the turn of the year are scarce, and vessels can only be placed for January and later months at quite a substantial reduction from December rates. The acute state of demand from the Gulf ports appears to have ended, since, particularly for November, charterers are abundantly supplied with tonnage. At the Atlantic ports enquiry for November boats continues, but in less pressing form. Time boats are hard to dispose of at owners' advanced ideas, and fixtures are the result of momentary pressure for special tonnage in most cases. In other trades the demand for steam at present rates is very light.

Large, square-rigged tonnage has somewhat accumulated at New York of late, owing to the difficulty in finding employment for this class of vessels in the traffic to the colonies, likewise to the demur of owners to accept the low rates offered at present by the Standard Oil Co. for case oil to the Far East; on the other hand, this company does not seem willing to meet the higher rates demanded, and it is impossible to state how long this state of affairs may continue. In other branches there is not much of interest to report. There is very little doing in any other direction, owing to the scarcity of orders, counter-balanced, however, by a light supply of small or medium-sized tonnage. Some demand is manifested for lumber vessels from the Gulf and from the Atlantic to South American ports, but it is not sufficiently pressing to advance latterly established rates.

FRENCH SHIPPING.

According to a writer in a recent issue of La Yacht, the French mercantile marine has fallen into a very unsatisfactory condition. Thus whilst the tonnage of British merchant ships increased 53 per cent. during the decade of 1886-96, and that of Germany increased 107 per cent. in the same time, that of France has actually diminished. The decrease, it is true, is only 1 per cent. or so, but in view of the fact that every other European nation shows an augmentation in merchant tonnage, the situation seems to demand examination, in order to ascertain the reasons which have led to France proving an unenviable exception. Even nations such as Spain and Italy have shown greater activity in this matter than France. The former, during the decade in question increased her merchant tonnage 30 per cent., and the latter by 68 per cent. The French flag, according to La Yacht, has almost disappeared from the Far East and from the Pacific, and this in spite of heavy bounties granted by the government to encourage French shipping. Several causes have been proposed to account for this stagnation. Amongst others it is asserted that the treaties with England by which equality of treatment is secured to ships of either nation using the harbors or docks belonging to either State, acts prejudicially to French interests. Thus, in France all docks and harbors are owned and operated by the State, whereas, this is the exception in England, where private ownership is more usual. The private docks, according to La Yacht, are not bound by the treatise in question, and accordingly can and do favor their own boats. The great difficulty which French shipowners experience is, it appears, to get outward freights, and it is asserted that being unequally treated at private-owned docks in England, the French ships are unable to obtain these freights from English ports. The principal reason adduced, however, for the dimunition of the French mercantile marine is said to be the excessive cost of cargo boats built in French yards. The price is said to be 35 per cent., 40 per cent., 80 per cent., and even in certain cases 100 per cent. more than for equivalent boats built in England. To secure the heavy bounties granted by the government the ships must be built in France, and the increased capital expenditure thus necessitated more than offsets the advantage to be derived from the bounties. The reason given for the heavy cost of shipbuilding in France is that the yards there have been laid out exclusively for naval work, and the same care in design and workmanship demanded for this class of vessel is given to small tramp steamers of 2,000 to 3,000 tons displacement.

NOTES.

THE Gas Engine and Power Co. and Charles L. Seabury & Co. have received an order from the War Department for transport service for five steam launches, each to be 30 feet long, fitted with fore and aft compound engines and safety water-tube boilers.

WE have received through the courtesy of the Marine Iron Works, Clybourn and Southport avenues, Chicago, W. G. Nourse, manager, an advance copy of their new catalogue, referring especially to the line of marine machinery built by the firm. The brochure is a finely illustrated catalogue 9 by 6 inches, containing 40 pages, and will be mailed free of charge to those who are sufficiently interested to make application for same. The Marine Iron Works are also boiler makers of excellent reputation.

THE Snow Steam Pump Works, Buffalo, N. Y., have been awarded the very important contracts of furnishing pumps for a Russian battleship, a Russian cruiser and the American battleship Maine. The basis on which they have secured these important orders was that their plans showed marked advancement in marine engineering as applied to steam pumps. It will be some time before these orders will be completed as they will be built to special designs and especially adapted to this particular service. The large works this company at Buffalo are now running night and day, with two complete gangs of workmen.

ON application under resolution of the Board of Managers and after due legal notice, the name of the American Shipmasters' Asssociation will be changed in pursuance to an order of the Supreme Court, of the state of New York, on November 1st, next, to American Bureau of Shipping. On and after that date all business should be transacted in the new name, and all correspondence be addressed to American Bureau of Shipping, 37 William St., New York, N. Y. The company's officers, committees, agents and surveyors continue in their respective offices and positions as at present, and there will be no change in the title of the work for the classification of vessels, viz: "Record of American and Foreign Shipping," regularly issued by the association, and now in its 30th volume. Respectfully, Theo. B. Bleecker, president; W. R. T. Jones, secretary.

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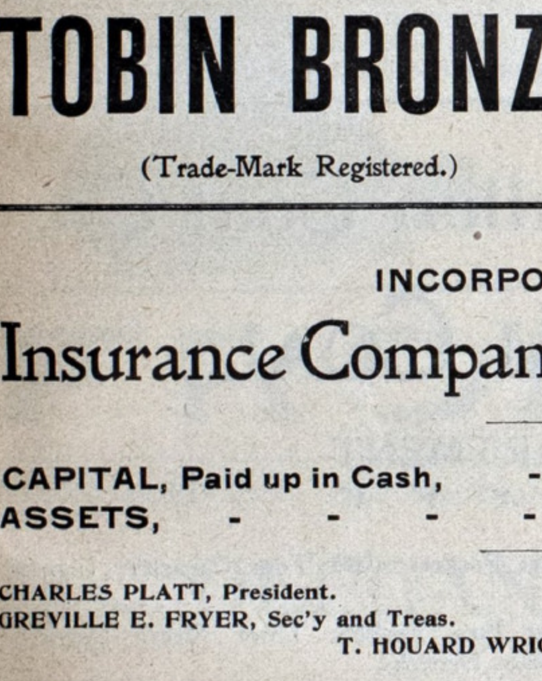

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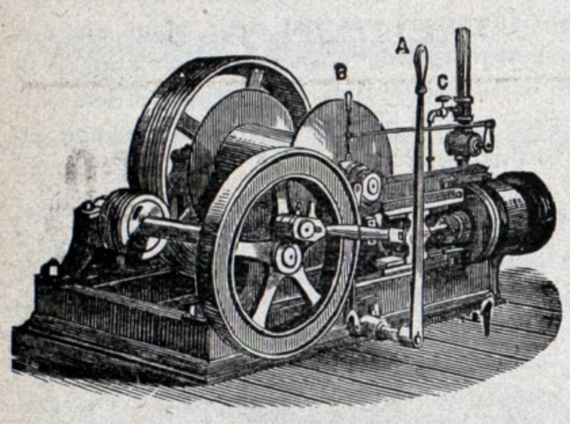

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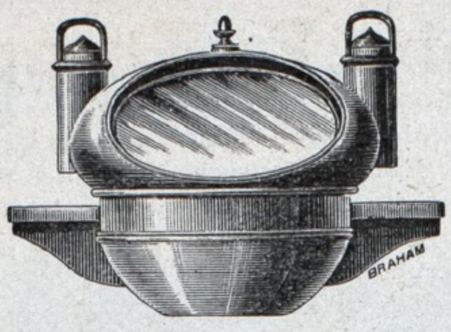

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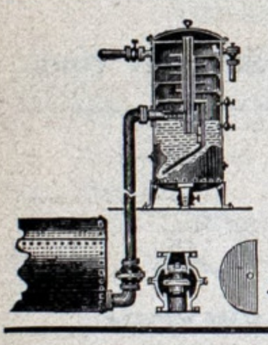

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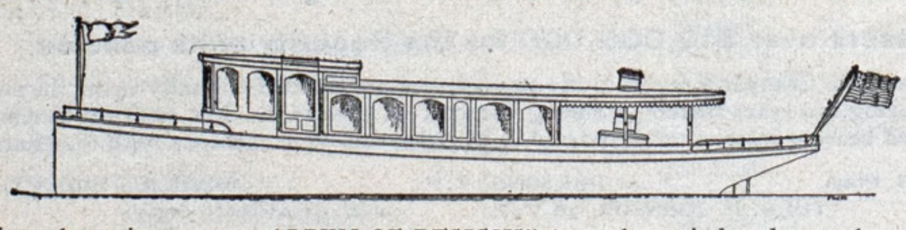

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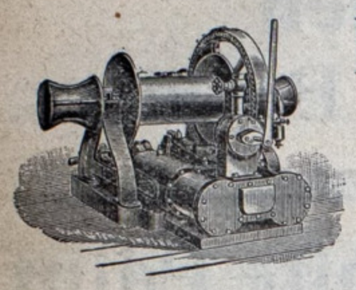

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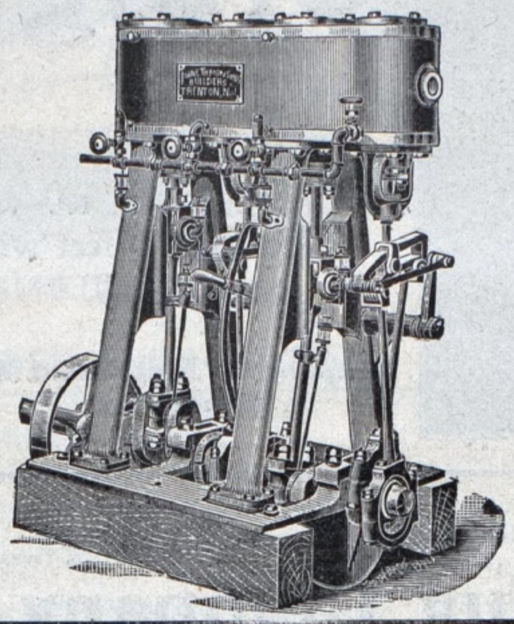

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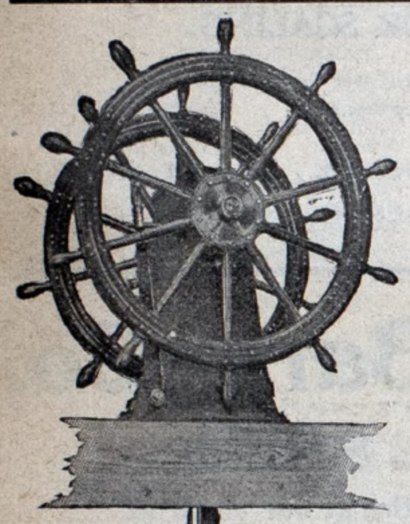

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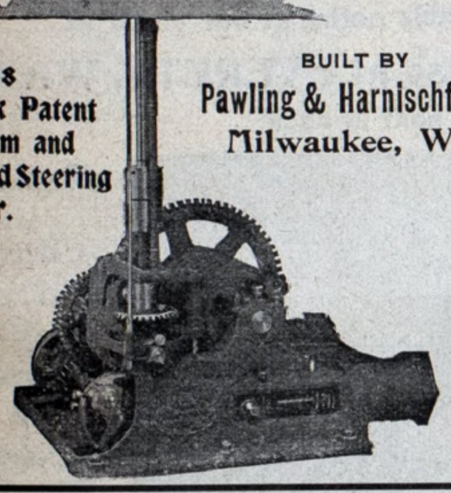

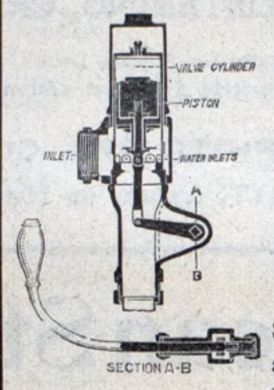

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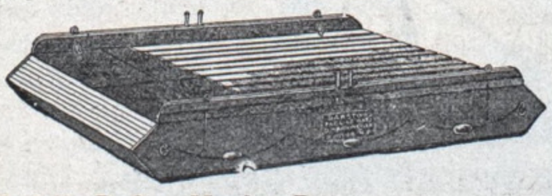

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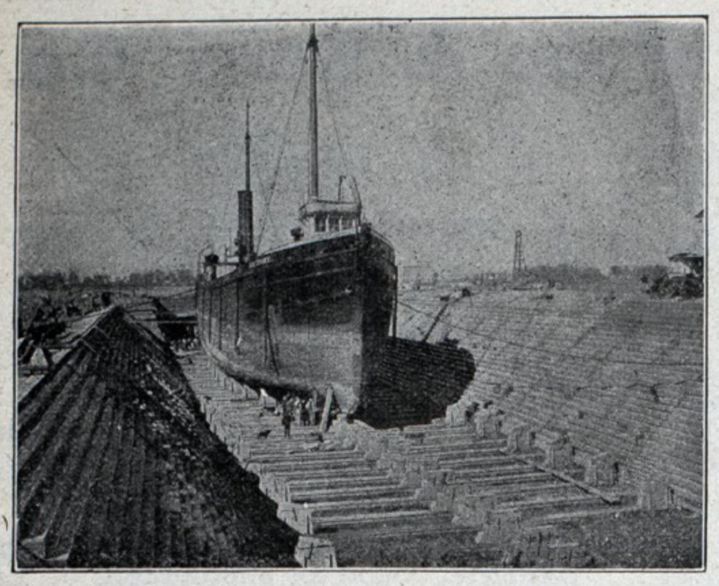

Craig Ship Building Co.

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New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

Repairs to Metal and Wooden Ships a Specialty.

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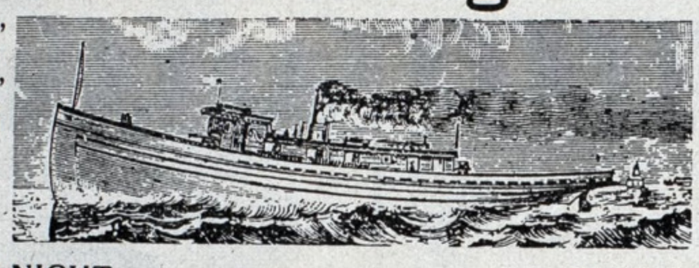
First-class Tugs, Steam Pumps, Divers, Hawsers, Lifting Screws, Etc., furnished Promptly on Orders by Telegraph or otherwise.



Steamers when outside wanting our Tugs, blow one long whistle and as many short ones as they want tugs.

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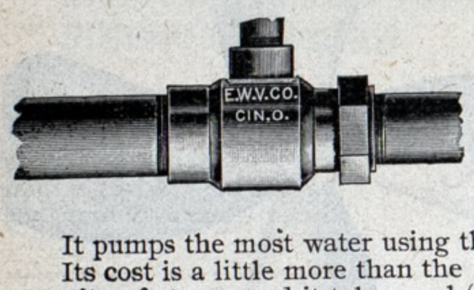

USE THE VANDUZEN ...STEAM JET... PUMP

The BEST Steam Jet Pump in the WORLD,

It pumps the most water using the least steam.
Its cost is a little more than the common syphon, but will use only one-third the quantity of steam; and it takes coal (? of $) to make steam.
The ONLY reliable Jet Pump for fires on steam vessels.
A No. 7 Pump costing $25.00 will force water through 50 feet of hose and throw a ¾ inch solid stream of water 75 feet from end of nozzle without fail as long as there is water at end of suction pipe. It will not *freeze*. Has no *valves*.
Every pump guaranteed. Ask your ship chandler for them, or write to us for illustrated catalogue.

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A. Gilmore's Sons,

Dry-Docking, Ship Building and Repairing.

EAST SIDE, NEAR IRONVILLE, - - - TOLEDO, O.

Dimensions of Dock, 236 feet long, 55 feet wide at top and 37 feet wide at gate. Nine feet water over sill. RATES OF DOCKING, Ten Cents per registered gross ton for vessels over 200 tons. Jig Mill and Planer in connection with Dock.

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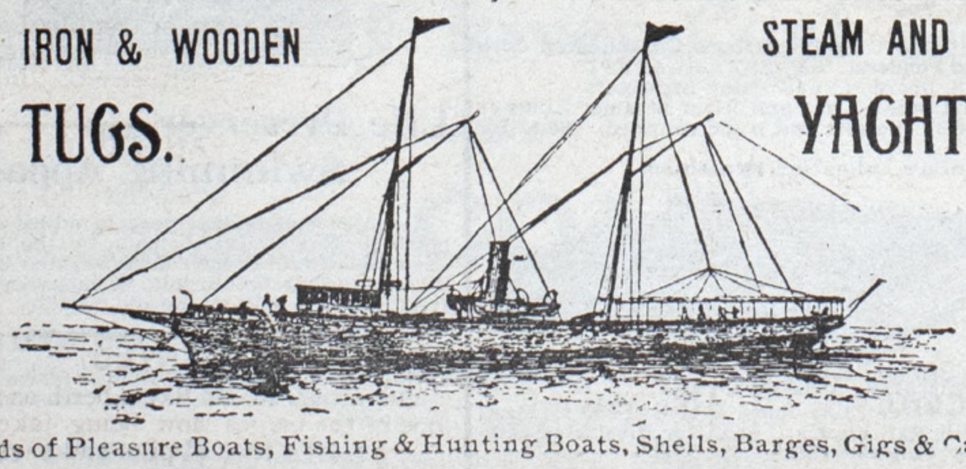
LIFE BOATS. YAWLS. LIFE RAFTS.

DETROIT BOAT WORKS,

DETROIT, MICH.

STEEL, IRON & WOODEN TUGS. STEAM AND SAIL YACHTS.



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Paint Your Vessel with **Superior Graphite Paint**

NO BLISTERING, CRACKING OR SCALING.

Made especially for Stacks, Decks, Sides, Hulls, and Water Compartments.
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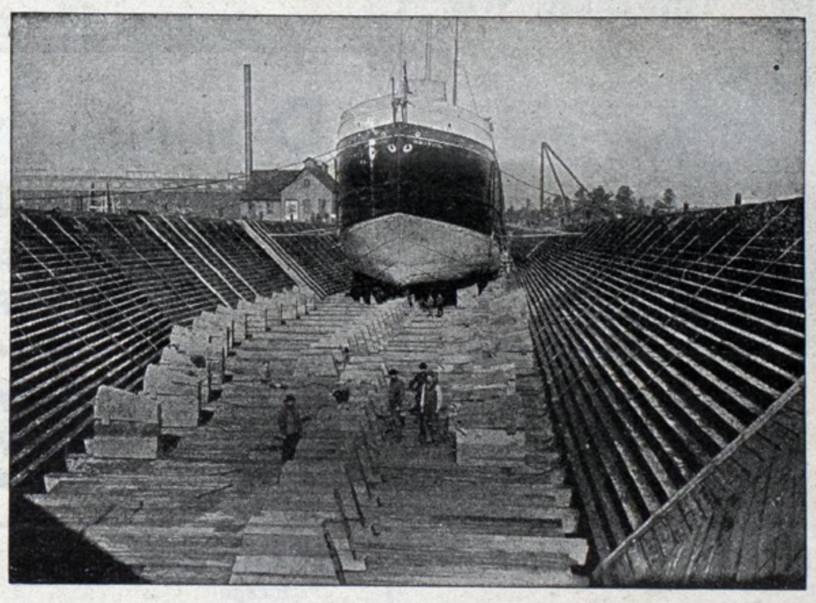
STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at

WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.

Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.

SIZE OF DOCK

Length, Extreme	537 feet.	Entrance, Top	55 feet 9 in.
Breadth, Top	90 " 4 in.	Entrance, Bottom	50 "
Breadth, Bottom	52 "	Depth over Sills	18 "

LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

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A Number of Propeller Wheels in Stock at Dry-Dock.

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